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THE LONG DEATH

A Catalyst Club Murder Mystery

By
GEORGE DYER

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A



FOR BETS AND DON

*a small attempt to
shrink a great
distance*

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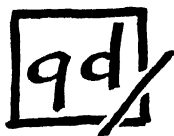
Apparatus taken from partition of Hunter's office

(facing page 242)

Certain readers of *The Catalyst Club* have been good enough to point out that I failed to credit the source of the books, papers, and newspaper articles cited in the footnotes to that narrative. I regret this oversight. Most of them came, as the ones in this book have come, from the library of the gentleman whose pseudonym in these stories is Mr. Leonard Sloat.

I also owe gratitude to Doctor Malcolm Colby Henderson, of the Department of Physics, Princeton University, for assistance with the technical material below. He cannot, of course, be held responsible for any errors that may be found in the book.

November, 1936



NOTED SAVANT PASSES!

Theodore M. Lempereur, president of the Catalyst Club and of the chemical laboratories bearing his name, sat in an armchair and waited for his friend to die.

That the body of John Gregory Hunter was about to quit hold on life Lempereur found reasonable enough. The body is dust, of course. Man, not excluding Socrates and John Gregory Hunter, is mortal. But that Hunter's intellect faced extinction tasted bitterly of the incredible. It went against the theory of the indestructibility of energy.

Hunter's thought, compared to the meagre and divided trickle that meanders through most minds, was a great river, powerful, tireless, canalized in directed flow toward a single end. It seemed impossible that such a force could be stopped. One might as easily picture arresting the full stride of the Mississippi.

What became of such a stream? The chemist turned his beak of a nose and gray-green eyes to look at the collapsed figure in the bed. He realized, with characteristically minor concern, that he was here because his dying friend wanted to divert the better part of this flood, which he could contain no longer, into Lempereur's head.

To a nature less hardy than the chemist's the pros-

pect would have been appalling. Hunter, now about to meet the immense unknown of death, had confronted unknown immensities all his life. He was one of the handful of pioneers who have been pushing back the frontier of the science of physics, at a mathematical altitude so high and cold as not to support any but the most daring and capable. On this snow-capped sector of the boundary line of knowledge, physics melts into chemistry, which in part justified Hunter's choice of Lempereur as his scientific executor.

The rest of the justification was a friendship of thirty years' standing. This relationship, like most of Lempereur's, seemed perversely to thrive on disagreement. The big blunt-mannered chemist attracted to himself characters that liked combat, and then fought with them—to the evident satisfaction of both parties. These arguments rarely led to serious division, because Lempereur's perceptive friends recognized that his thorny cocksureness was entirely superficial. They quickly found that it overlay a keen and questioning mind, and that he would fight against the world for his friends even more willingly than with them.

The chemist and physicist had begun to disagree as undergraduates, and now, when Lempereur was owner and active head of the largest commercial laboratories west of Chicago and Hunter's name was mentioned in the same breath with those of Millikan, Compton, and Rutherford, they were still in disagreement. When Hunter issued one of his best-known papers, "An Attempt at a Complete Explanation of the Zeeman Effect,"* Lempereur told him at once in what exact respects his reasoning was at fault—and then rushed

*First published in *Physical Review*. 25, 213 (1924).

into print in his defense at the first suggestion of adverse criticism. This procedure was repeated each time one of Hunter's more controversial monographs appeared.* The physicist having come to rely on this oddly inflexible loyalty, it was natural that he should now be putting his ultimate reliance on Lempereur.

The physicist was said to be dying of anæmia. His blood-count had given the first warning more than six months before, and since that time the relentless destruction of red cells had gone on faster and faster, in spite of the best efforts of the doctors and the almost complete co-operation of the victim. Hunter, impatient at the interruption but relatively docile, swallowed tonics, took sun baths, and breathed fresh air in unusual quantities. In the past few weeks he had submitted to being sent occasionally to a hospital where he was given transfusions, ten or twelve of them. In two respects, however, he would not obey the doctors; he would not stop working, and now, when he knew that his time was short, he would not go back to the hospital. He came home to his own sunny bedroom, took a final transfusion, and sent for Lempereur.

He was able to discuss his work for the better part of an afternoon, but during the evening and most of the following morning weakness overcame his consciousness. He dozed, awakening only for the simpler transactions of life, and left his friend to wait by the window.

Lempereur stared out through the gauze curtains,

* Notably, "The Inverted Series Crystal Apparatus for X-ray Spectra," *Phys. Rev.* 28, 651 (1925): "Corroborative Observations on the Hypotheses of Niels Bohr," *Phys. Rev.* 33, 13 (1929): "Properties of Ferro-Cobalt in a Lawrence 'Cyclotron,'" *Phys. Rev.* 44, 150 (1933).

beyond which he could catch an oblique glimpse of the raw pylons of the Golden Gate Bridge, watched the play of sunlight on the burnished red hair of Frances Hunter, his friend's young niece, who sat opposite him, and reflected on mortality in his severely practical way. He looked from time to time at Hunter, and marked on the pale forearms the mottled "purpuric patches," those bruise-like stains of underskin bleeding that indicated how far the blood had lost its power to clot. Hunter was much thinner than he appeared in Lempereur's image of him, arrived at as a sort of average struck over thirty years. His pallor was extreme, although he was somewhat tanned. Lempereur deduced, from the fact that this tan was heavier on the left cheek than the right, that even as the physicist took his sun baths he had lain continuously on one side, making notes and writing the outline of papers which he wished Lempereur to edit.

The room was very bright and pleasant. Frances Hunter had seen to the furnishing (for her uncle would have sat on boxes and slept on the floor without noticing anything out of the ordinary), and in so doing had expressed her own sure but highly original taste. She now had added to the usual scheme a half-dozen vases full of carnations, the delicate little Cecil Breuner roses, and sprays of the brilliant Japanese quince that in the tiny garden below the house were just ushering out February and heralding the Spring. Hunter was not explicitly aware of these additions, but their smell filled the room and almost cancelled the odor of rubbing alcohol hanging about the bed.

A feeling of hush, rather than any lack of sound, was in the room. Hunter's shallow breathing was

clearly audible to Lempereur, and the minor clicking of Frances Hunter's circular knitting needle, and the rustle of the brisk occasions of the trained nurse. Through the slot beneath the raised sash drifted in the scattered chimes of cable cars, merry and insistent, the constant characteristic background of the street sounds of San Francisco; with them, very sharp and clear in the sharp, clear air, came the whir of automobiles, the rattle and groan of a chain-drive delivery truck, the rare deep-lunged whistles on the Bay. Children squealed and romped up the steep warm sidewalks from school to lunch in the houses on Russian Hill.

Lempereur glanced at his wristwatch—high noon of a mild day in early Spring. A rather queer time to be dying, he thought.

John Gregory Hunter opened his eyes and asked the nurse for a drink of water. He then asked to be propped up a little. Frances Hunter put down her knitting and went swiftly and quietly to help the nurse.

"It's about time you had something to eat," she informed her uncle.

The fine thin face on the pillows smiled at the tall girl leaning over the bed.

"Not this minute, my dear," said Hunter. "I want you to run out for a while. I want to talk with Mr. Lempereur. Go take a nap. You're exhausted, and I feel finely. I'm going to last for years. You can't kill a Hunter, you know. We're too tough—and ornery."

Frances Hunter smiled back at this affectionate lie, and accepted it in the same stiff-lipped spirit. Under the heavy casque of her hair, which was fashioned be-

yond human skill of some fluid blend of living copper and bronze and gold, and poured down as though still molten to the knot at the back of her head, the girl's face did indeed look tired. It was almost as pale as her uncle's, and while to Lempereur it looked exceedingly young, there was a quality of sorrowful thought about the shadowed brown eyes that conveyed a contradictory effect of complete maturity. Even the chemist, who had spent little time in his busy life reflecting on young women, had been struck by the notion that Frances Hunter was remarkably good-looking. Beyond this, he thought her "interesting," the highest praise Lempereur could bestow.

She leaned for a moment, indecisively straightening the coverlet of the bed, and then said:

"All right, Uncle John. But I won't stay away for very long, I warn you; and I certainly don't need any sleep."

"I'll call you if I want you, my dear. And don't worry. I'm feeling stronger and better all the time."

Frances Hunter followed the nurse slowly out of the room, her straight body bent a trifle at the shoulders. The door shut.

"I think you're right, John," said Lempereur with a certain roughness. "You seem to me stronger. I think you'll pull through."

Hunter looked at his friend's face, so doubly ruddy and healthy in contrast to his own.

"You don't need to be a damned fool," he said, and both men were silent for a time.

Finally, the low voice from the bed began again.

"I'm dying, all right, Ted"—Hunter was one of Lempereur's few friends who dated from the old days

when he was called "Ted" instead of "T. M."—"Oh, I'm not afraid; you needn't let that worry you. Not that I can swallow this Immortality of the preachers. I guess I've wanted to, but I've never seen anything I could base such a belief on. . . . And when a scientist begins to believe what he wants to, instead of what he has proof for, well you know that's the end of science, of course. You get Kammerer * of Vienna; you get businesses like Oliver Lodge. . . . Besides," the pale face smiled again, "I can't imagine that any heaven would answer my specifications: a big physical laboratory, with unlimited free power, and unlimited free water, and no worries about finances; because no one else would want that kind of heaven, and because in heaven, I suppose, there would be no questions left unsolved, and so no experimental work to do. . . . No, I wouldn't even want to believe in orthodox Immortality. . . . Still, my life has shown me a certain great continuity in matter and energy. . . . Nothing is absolutely destroyed. . . ."

Hunter was quiet for a moment, and then turned his head toward his friend, almost in appeal.

"Is it, Ted?"

"No, of course not," Lempereur growled, over some difficulty in his throat, and ran dry of words.

"Oh, I'm dying, all right," reflected Hunter, and paused again, before a sudden energy replaced the species of wonder in his voice. "But I'm *not* dying of what the doctors say I have. That's utter nonsense!"

Lempereur rose to the challenge in the tone of the

*The biologist who killed himself in 1926 upon the collapse of his "proof" of the inheritance of acquired characteristics.

other, automatically, as he had done so often in the years past.

"You have," he told his friend flatly, "idiopathic aplastic anæmia—all the doctors agree on that."

"Which means just exactly nothing," said Hunter, a little color coming into his cheeks. "Obviously I have *anæmia*; any fool could tell that. But all this 'idiopathic aplastic' stuff is simply saying, first, that the cause is unknown, and, second, that they can't stop it. Well, what is the cause? *They* don't know. And why can't they stop it? . . . How old are you, Ted?"

"Fifty-one. What's that got to do with it?"

"You feel fine, don't you? You feel as well as you ever have in your life, don't you?"

"Yes," agreed Lempereur.

"Well, you ought to. You're a young man still, and you've led a healthy life, just as I have. And I'm a year younger than you are, Ted. My parents and grandparents lived to be seventy and eighty; one of them was ninety-five when she died. 'Idiopathic aplastic anæmia'! Rot! What's the *cause*?"

Lempereur held back a conventional answer; it came to him abruptly that he was quarrelling with his friend in what was probably their last few moments together. Hunter read the chemist's expression, relaxed, and smiled his thin quick smile.

"You're right, Ted. Let's not waste time," he said. "I think I've told you all I could about the work with the cyclotron and the heavy hydrogen, anyway, you'll find all my papers in the safe in the laboratory, and Frances has the last notes I've made. I can't do anything more on that. What I do want to do is to talk

to you about Frances. . . . She's a nice child, don't you think?"

"Very," agreed Lempereur.

"You'll have to look out for her, Ted. I didn't name you a legal guardian, or anything—after all, she's twenty-five or twenty-six—but I'd like to know you'll keep an eye on her. . . . It's been so many years since my brother was killed. . . . I really think of her as *my* daughter, you know. . . . She'll have a little money, and she's a thoroughly competent scientific secretary. If you can give her some one to come to for advice, some place she might think of as a sort of home. . . ."

"My wife and I agreed a long time ago—" began Lempereur, and then stopped short, as the implications of that agreement so far in advance of the event struck him.

"That you'd take her in for a time, after I died?" Hunter finished for his friend, and smiled at his own acuity and at Lempereur's embarrassment. "I hoped you would. Thank you, Ted. This house is only rented, after all. It will be rather empty, I suppose. . . . You see, I don't want her rushed into anything, if you know what I mean. . . . She seems to be very attractive to young men. . . ."

Hunter frowned slightly.

"Could you give me that glass of water?"

Lempereur held the glass while his friend, without raising his hands, drank nearly a tumblerful.

"There are three young men associated with me at the laboratory." Hunter went on, more strongly, although all trace of color had again left his cheeks. "Winfield Richmond, who has backed our experi-

ments, bought the cyclotron and all the other apparatus. I don't know how he feels about Frances, but I shouldn't think he'd be much of a husband for her. Oh, he's completely well-meaning and good-natured, and he has limitless money, and if he sticks at the work for long enough I suppose he might become some kind of a scientist. But you'll meet him, and see what I mean. . . . Then there's his younger brother, Sidney, and, Ted, I must admit I have no use for him at all. Winfield dragged him into the laboratory because he hoped it might make the kid work, but as far as I can see, he hasn't contributed one single thing to the experiments. My God, Ted—he's at the stage where he thinks he can write poetry. Such stuff! His office space is just wasted, in my opinion. You'll see. . . . Then there's Erickson, Hugo Erickson, my assistant. You met him, didn't you? A quiet man, and nothing much to look at, but a first-rate scientist, if I ever saw one. He has a mind like a steel drill, Ted. I have great hopes for him. . . ."

Hunter lay limp on the pillows for a few seconds, and then suddenly shrugged himself up into what was nearly a sitting position.

"Oh, damn it all," he cried. "I don't want to die—*now!* I don't want to turn over all these things to somebody else. No one can get the results I could with this heavy hydrogen! And Frances . . . I want to see how it's all *coming out*. . . . It's so . . . *stupid!*"

"Here, here!" said Lempereur, in alarm. "Don't use yourself up shouting like that. Lie back on those pillows, John."

Hunter fell, rather than lay, back and shut his eyes with an expression of weariness and pain on his white

features. Lempereur caught a glint of reflected light from his forehead, and saw that his friend had burst into a sweat.

"John," said Lempereur.

Hunter's mouth had fallen a little open, and the passage of breath between his lips was the only answer. Lempereur stepped quickly to the door and signalled the nurse.

The events of the last two days had passed for the chemist at an unusually slow tempo; things now began to happen faster than he liked. The nurse came into the room with a sort of silent bounce, looked critically at Hunter and felt the failing flutter of pulse in his clammy wrist. She reached under the coverings and withdrew her hand and looked at it. Deftly but quickly she slipped the pillows from under the pale head, lowered it to the level of the bottom sheet, then took the pillows and jammed them under the mattress at the foot of the bed. She hurried down the hall to the bathroom, returning with two hot-water bottles which she placed next to Hunter's feet, and went back into the hall to use the second-floor extension telephone. Lempereur followed her in time to hear her connect with the doctor and catch the low-voiced word "hemorrhage." "I have already put him in shock position," she said. She listened a moment, and hung up.

During the ten minutes that it took the doctor to reach Hunter's house, Lempereur walked back and forth the length of the upper hall. Although there seemed to be no movement but his in the house, he had the feeling that everything was moving about him. The stream of time itself, narrowing down into these few racing seconds, was sweeping over his head, out-

distancing him, taking with it by the death of his friend a part of himself, and yet leaving him far behind.

At one extremity of his pacing he could see through the door of Hunter's bedroom, see Hunter's face in which the cheeks sagged translucently on the cheekbones, and Frances Hunter's face, beautiful even in its brooding distress, and behind hers the face of the nurse, staring at her patient with professional fixity.

From the other end of the hall, he could look down the stairs, and see despair written on the pasty features of Mrs. Mulcahy, as she sat by the front door waiting to admit the doctor. Lempereur found it a relief to reflect on her, the most extraordinary character in this household.

Hunter's housekeeper was a solidly built woman of some unguessable age over fifty-five, who sheltered a dangerously tender nature under an angry-looking exterior. An enormous nose dominated her expression, and her eyes and mouth and brow were tied to this rugged mooring by a network of deep creases. The massive, whiskery face, and the mane of gray, bobbed hair, gave her the appearance of an elderly lioness.

In her youth, when she was Miss Yetta Grossman, she must have had a bold and handsome look about her, although she could never have been pretty. While still very young she married a minor politician named Mulcahy, and for a time in the opulent nineties she knew what it was to travel behind trotters. There had even been a butler at one period. However, Mr. Mulcahy met an abrupt end during the unpleasantness which attended the conviction of "Boss" Abe Ruef to the

penitentiary; Yetta, forced in middle age to support herself, took service with Hunter. That was years ago, and ever since she had adopted the scientist and his niece with affection raised to the power of ferocity. By now, she ran the house on the shoulder of Russian Hill much as she pleased; Hunter never noticed what he ate or how it was served, and cared little how his bed was made or his bureau arranged; Frances was glad enough for the most part to let Mrs. Mulcahy order things as she chose, and only over the most important matters did she risk the housekeeper's violent bursts of temper or even more violent and distressing bursts of tears.

Lempereur could see, as he looked downward into the lower hall, that Mrs. Mulcahy's emotions were running close to the surface in this crisis. Her face had the color and texture of dough, and her eyes were red-rimmed and bloodshot. She had been crying already, and Lempereur reflected gloomily that she would probably soon have cause to cry some more. She began again, as a matter of fact, as soon as she had let the doctor into the house.

The doctor was a contemporary of Lempereur and Hunter; a bald little cricket of a man who had known both the chemist and physicist from the days of the War. Normally he was rather casual and cheery, but today there was nothing but gravity in his manner. He hurried upstairs, greeted Lempereur briefly, and disappeared into the sickroom. Shortly afterward he ejected Frances and closed the door. For five solid minutes the chemist engaged in the appalling business of making conversation with Hunter's niece. Some talk seemed indicated, but the situation was, of course,

almost impossibly difficult. The young woman sat with her face averted from the older man, all her attention coming to a focus on the other side of the blind panels. She made several brave efforts to answer Lempereur's commonplaces; the exchange would last for a few sentences somewhat briskly and then sag into silence. The big chemist, standing uneasily beside the rail above the stairs, would grope for another idea, while all the time the small persistent sound of Mrs. Mulcahy's sobbing drifted up from below.

At last the physician came out, and Frances Hunter rose quickly to her feet.

"You may go in now, my dear," he said, with great gentleness.

"Is he—?" asked the girl.

"He's not conscious, but he may come around any minute. We're doing everything that can be done as quickly as possible. Go in to him now, Frances."

As soon as the girl was out of sight, the doctor took Lempereur by the elbow and piloted him to the far end of the hall. Any encouragement that he had put into his voice for Frances was now gone.

"I'm afraid it's the end, T. M.," he said. "The blood pressure is dropping rapidly. There must be bad internal bleeding. We'll try for another transfusion, but—there may not be time."

"How long?" Lempereur asked.

"I telephoned the donor agency before I left my house, say twenty minutes before they can get a man here. We'll have to cross-type; if the two bloods are compatible, we may be able to accomplish a transfusion within an hour. He should have gone back to the hospital, as I recommended."

"There's nothing more you can do in the meantime?"

"Nothing," said the physician.

In silence the two men walked slowly down the hall and into Hunter's room.

The physicist looked dead already, his face was gray and sunken upon the bones. A thread of white eyeball showed under the lowered lids. The movement of his chest under the coverlet was rapid and faint. He was unconscious, and he remained so for many minutes. Frances Hunter sat by the bed, holding tight to one of the wasted hands. Lempereur and the doctor stood near the windows, waiting for the tinkle of the front door-bell. No one came.

Once the dying man opened his eyes and smiled almost imperceptibly at his niece, and the sinews on the back of his hand whitened as he returned, weakly, the pressure of her clasp. He said something, murmuring under his breath, and Frances leaned forward tensely to listen. But he was talking to Hugo Erickson, telling him about "crystals of lithium fluoride" and suggesting that he "try the triton on bismuth." "That secret," he said, "I shall take with me." Then he slipped away again into unconsciousness.

Not long after this an automobile labored up the steep street before the house and creaked to a halt. Footfalls hurried up the front steps and a quick rap sounded on the door. Mrs. Mulcahy, with streaming cheeks, opened to the man who had come to offer his blood.

Approximately at that instant, John Gregory Hunter stopped breathing.

CATALYST CHIEF'S DEFI CHECKS EDITOR!

Complications flock like scavenger fowl about the body of a person dying in a modern city. When the person is as distinguished as the late John Gregory Hunter, the arrangements following his death call for no small executive ability. Lempereur, a man of sharp decision and now glad for activity as well, handled everything with his usual competence.

A telephone summons brought two of his junior chemical engineers within a few minutes of his friend's death. The more comely and tactful of these was assigned to drive Frances Hunter, as soon as she could get ready, to Lempereur's estate in Marin County. The other was stationed at the downstairs instrument to answer calls from the newspapers, wire services, and private individuals, and to receive telegrams. With the help of the doctor, and three triple bromides, Lempereur dealt with the problem of Mrs. Mulcahy's emotions. With these, and other matters, it was late afternoon before he was able to return to his office.

The death of his friend had thrown an air of strangeness over the whole city for Lempereur; even his own buildings, that he knew so well, looked different. The new structure fronted the declining sun across Folsom Street, the northwest face presenting

to the level light its three stories of glass and severely plain concrete. The old brick building crouched one story high in the shadow of the new, standing just where it had since Lempereur's father built it in 1870 (it had been rebuilt in the autumn of 1906, of course); and no one but Lempereur on this particular day could have seen any change.

The chemist parked his big car before the main entrance and went in. The shattering clamor from the metallurgical laboratory in the old wing was stilled for the night, but through the partition between the vestibule and the main floor of the new building he could hear a less ear-splitting sound of working machinery. Out of what another person would have heard as only a confused turmoil, Lempereur could pick the groan of a shredder, the thump of a colloid mill, the sucking squelch of a filter press (which he noted was leaking even more than usual), and a variety of other detached noises. These declared to him that the trial production line treating kelp on a semi-plant scale for the Sub-Pacific Reduction Corporation was still in operation.

On his right hand, as he stood with his back to the main entrance, was the glass cubicle housing the information desk and switchboard. He could hear the operator calling him, and he turned toward her.

Lempereur could never keep in his mind the name of the current switchboard girl—they were all young and more or less good-looking, and more or less adequate to the job. Their rate of turnover was amazing. They were always getting married, or going off in a huff or departing to take care of their mothers; but

mostly they got married. Lempereur had come to the conclusion that whom the gods would betroth they first made switchboard girl in his laboratories. The present incumbent was rather prettier than the average; her name, appropriately enough, was Miss Smiley; she had been with his firm for six months, and her face was beginning to look definitely familiar to the chemist.

"Mr. Lempereur," said Miss Smiley, "there's been a man trying to get hold of you on the phone very urgently for the last two days. He's just calling again, now."

"Who is it?"

"A Mr. Brander," said the girl.

Lempereur frowned.

"I don't recognize the name. Is it a business or personal matter?"

"I heard him tell your secretary that it was strictly personal. But she's gone home. Do you wish to take the call?"

"He didn't give any clue to what he wants?"

"He said he's the managing editor of *The San Francisco Star*."

Lempereur's ruddy face flushed darker, his greenish eyes darkened as the heavy brows drew over them. He ran one hand through his brush of hair that looked almost too black to be natural. He had little use for modern newspapers, regarding them as inaccurate, cheap and sensational; and the afternoon *Star* he considered the worst in the city.

"Wasn't that little whippersnapper I threw out of my office last Monday a reporter from *The Star*?"

"I believe he was," said Miss Smiley, trying to keep

her alert young face impassive in spite of the recollection.

"No, I won't talk to the managing editor of that yellow journal!" exploded Lempereur. "—Yes, I will, too. But put the call in over my second phone. You know what I mean?"

"Yes, sir," said the girl, evidently impressed with the suddenness of the big chemist's anger, and its Homeric quality.

Lempereur swung down the hall and into the elevator, and was carried, fuming, to the third floor. He was relieved to have in prospect a combat with a human opponent. Death had been a difficult adversary; Death had turned his flank stealthily, never giving him a chance to strike back; in killing John Gregory Hunter, Death defeated him, he felt, and Lempereur was not accustomed to defeat. He would see just what this damned newspaper man was after.

He stepped out of the elevator, turned left, and strode down the corridor. Once more everything appeared natural, no longer strange. The eighteen paces past the window and the now empty desk of the receptionist—the right turn abreast of the glass door marked: "Bio-chemical Laboratory"—the eighteen steps past the hallway leading to the analytical room and the doors of the general offices and experimental laboratory, again a right turn away from the door into the library—and the ten paces more that carried him to his own door—all this had become familiar and third-dimensional for him.

He walked briskly to his desk and sat down, turning his back on the great glass windows overlooking the Bay and the city. Ignoring the telephone in plain

view at his elbow, he opened a drawer of the desk and took out a hand-set, which he placed on the blotter before him.

"Hello?" he said, in a completely unencouraging tone.

The voice that answered him was a remarkable one, a naturally harsh voice attempting to be smooth and succeeding too well. It was suave to the point of being syrupy. Lempereur was anxious to dislike it, and he found no trouble in doing so.

"Am I speaking to Theodore M. Lempereur? This is Abel Brander, managing editor of *The San Francisco Star*."

"What do you want, Mr. Brander?" asked the chemist, and his intonation would have turned blue litmus a fine shade of red.

"I understand, Mr. Lempereur," went on the sleek voice, with the hard edges sticking through it, "that a representative of *The San Francisco Star* was ejected from your offices three days ago by a—ah, member of your staff. Do you know whether that is correct?"

"It is correct, Mr. Brander, except for the fact that no member of my staff was involved. I had the satisfaction of attending to the matter personally."

"Oh? I understand some force was used. Our reporter, Mr. Bernbaum, showed me certain marks——"

"Nothing short of force would move your man. The young pup came in here, insisted on seeing me, and took up a full half-hour of a busy man's time. He had some wild scheme of making a club of which I happen to be president a sort of tributary to your paper. His manner was thoroughly objectionable. I stood his

impudence as long as I could control myself—and then escorted him to the elevator.”

“Mr. Bernbaum told me that he was *thrown* into the elevator. He returned to this office very much shaken, and with the idea that he should start an action for assault and battery——”

“He had that idea, did he!” growled Lempereur. His black hair was fairly bristling on his head, and he squirmed downward into his chair with a characteristic movement of preparation.

“Of course, Mr. Lempereur, I insisted that he do no such thing, although I’ll admit he seemed to have a strong case. I told him *The Star* wanted to be on a friendly basis with you.”

“Very good of you. *Very good of you*,” said the chemist.

“Our reporter was, perhaps, not as tactful as he should have been. Too zealous, perhaps.”

“To put it mildly.”

“Well, well. We must make allowances for his youth and his devotion to his paper, Mr. Lempereur. However, I felt sure that if I could contact you we could arrange everything very pleasantly.”

“I can spare about five minutes,” said Lempereur, uncompromisingly.

“Good. I’ll come to the point at once; I’m anxious to get home myself. The matter concerns the Catalyst Club, of which, as you said, you are president. One of your members, I believe, is ‘Buzz’ Drake, of *The Times* city staff?”

“Mr. Persen Drake happens to be a reporter for *The Times* during his working hours. That has no bearing on his membership in the Catalyst Club.”

"Ah, but his membership in the club has great bearing on his job as a reporter. Your club's close connection with occasional criminal cases in this city often gives him very important news material. This material *The Times* gets exclusively, sometimes many hours before the other papers hear of it. You can't expect the other papers to feel that this is a fair arrangement."

"To be frank with you," said the chemist, "I don't care a rap for the newspapers, yours, or *The Times*, or any of them. It is a pure coincidence that Drake's connection with the Catalyst Club is helpful to his paper. I don't see the importance at all."

"But we do, Mr. Lempereur. It is a matter of dollars and cents to us whether or not we are able to give our many thousands of readers the news first. We cannot permit any condition to exist which results in another paper's frequently and regularly getting news ahead of us. And crime news is particularly important to us. I may say, without boasting, I think, that *The Star* gives a specially full coverage to crime news."

"So I gather from the appearance of your front page," said Lempereur, but the shaft was ignored.

"Now, for instance, I understand that you are working on the mysterious death of this scientist, J. G. Hunter."

"Who says it was mysterious?" asked the chemist, somewhat startled. "Dr. Hunter died of natural causes, after a long illness."

"Of course, of course, Mr. Lempereur. I am perfectly willing to accept any official explanation you wish to give me, now. But when the real truth of the

matter comes out, you can see we wouldn't want to be behind *The Times* when so important a world figure as J. G. Hunter is concerned."

"I haven't the least notion what you mean by 'the real truth,' " said the chemist, and something in the atmosphere of this conversation with a stranger about his friend made him realize for the first time that Death had not only robbed him, but stabbed him as well. "Doctor Hunter died of anæmia. There is certainly nothing mysterious about that."

"Then, for one thing, why did you spend this afternoon investigating the case, Mr. Lempereur?" went on the smooth voice, and it was evidently intended to convey an effect of knowing slyness. "I wouldn't want you to think that *The Star* has been shadowing you, you understand, but I have information that you have been working on this problem for at least two days. You are naturally at liberty to hide any conclusions you may have reached, but I don't want again to get my first news of your findings from the front page of *The Times*——"

"You have made a very stupid mistake," said Lempereur, an ache of surprising intensity awakening within him. "I have not been working on a 'case,' or a 'problem,' as you claim to believe. Doctor Hunter and I knew each other for many years. I was present at his death in a purely friendly capacity. I can assure you that I am not aware of the existence of any 'problem' and I deeply resent your questioning me about this matter."

"Oh, very well, then, Mr. Lempereur. Whatever you tell me I believe, of course. Hunter's death just looked like a case in point. I'm not so interested in it

as I am in the general principle. I called you up to suggest an alliance between *The San Francisco Star* and the Catalyst Club. I believe that you are going to one of the regular meetings of the club tonight. I suggest that you propose to the meeting that a representative of *The Star* staff be taken into full membership—perhaps not Mr. Bernbaum, if he has not impressed you favorably, but some other reporter or editor——”

“Do you realize what you are proposing!” said Lempereur. “Do you know how many men there are in the club?”

“A very small membership. Six, isn’t it?”

“Exactly. The number has stood at six for years, and we have not the slightest intention of increasing it at present. We are all old friends; we work exceedingly well together; and we have all the facilities we need. It is unthinkable that the group should be thrown out of balance by the inclusion of some arbitrarily chosen newspaper man.”

“Oh, all right then, if that idea does not meet with your approval. I hope you’ll think the suggestion over, just the same. The arrangement would prove valuable to both parties, I’m sure. However, *The Star* will also be satisfied with another way of working it. Simply have your secretary, Doctor Brill-Jones, make us out a report of all important matters which come up at your meetings, in duplicate, and send it to *The Star* as soon as each meeting is over——”

Lempereur rarely found himself at a loss for words, but now all he could produce by way of interruption to the smooth flow over the wire was a sound resembling that of hot iron plunged into a tub of water.

“Mr. What’s-your-name,” he said at last, “I never

heard such an outrageous series of proposals in my life! Speaking for the club, I can tell you that we will not waste a minute considering either of your suggestions. We are a strictly private organization, and why you should think you have the God-given right to pry into our affairs——”

The editor at the far instrument broke in sharply, and little smoothness was left in his tone.

“Mr. Lempereur,” he said, “I don’t want to get tough. I hoped we could settle this business in a friendly fashion. But I may say right now that if you refuse to meet me half-way, I shall be forced to *demand* co-operation.”

“I beg your pardon?” said Lempereur, a genuine incredulity struggling with the anger in his voice.

“I said that if we can reach no more diplomatic solution, I shall have to insist that your club co-operate with us.”

The chemist was not given to shouting when he was irritated, and in any case the peculiar hook-up of his second telephone would have made this inadvisable. But no member of the Catalyst Club could inject a more icy calm into his voice, and the temperature of his remarks now began to approach absolute zero.

“I should be very interested,” he said. “I should be *exceedingly* interested, to know what you think *The San Francisco Star* can do to make the Catalyst Club give it news.”

“Well, Mr. Lempereur, you know there has been so far a sort of gentlemen’s agreement among all the papers in this city to avoid giving your club the publicity you don’t desire——”

"Gentlemen's agreement!" echoed Lempereur. "*The Times* doesn't give us publicity because the editors know they'd never get another scrap of news if they did. Young Drake would have to quit either the club or *The Times* at once. And the other papers don't mention us because they pretend we aren't worth noticing. You newspaper people have the idea that publicity is so important that you can starve any one into submission by withholding it. You have the ostrich attitude that what doesn't appear in the papers simply doesn't exist. You have made the mistake of thinking that if you pay no attention to the Catalyst Club, it will just dry up and blow away. Well, it was a mistake; the Club has been getting along satisfactorily for something over eleven years, and I expect it will go on satisfactorily for a good many more without your assistance."

"That's just the point, Mr. Lempereur. We have seen our mistake"—a twang of sarcasm was in the other voice—"We're not going to make it any more. From now on, if we don't get full co-operation from the Catalyst Club, that name is going to appear steadily on the front page of *The San Francisco Star*. I have a man now at work on a series of articles describing—I won't say, exposing—the working of the Club, the way it interferes with the regular authorities. We plan to give a full picture of the way your meetings are held, and their exact location in Golden Gate Park. We hope, of *course*, that this will not bring too many people to interrupt your meetings, but since you have the strange habit of meeting in a public park, that is always a possibility, isn't it? We are planning at least six articles to deal with the past lives of in-

dividual members of the Club, with pictures, of course——”

Lempereur had been struck in the most vulnerable part of his armor by this bolt from the telephone, but he gave no indication of it as he broke into the other's sentences.

“Am I to understand that you are rash enough to *threaten* the Catalyst Club and me?”

“Well, now, Mr. Lempereur, you can understand we'd much rather not have to put the screws on. We'd hate, for instance, to be forced to use our influence with the police to check the co-operation they now give your Club. All you have to do is to give us a report, over your secretary's signature, as soon as anything important happens——”

“Mr. What's-your-name,” said the chemist, now at the last depth of frigid bitterness. “If you do any one of the things you have had the audacity to suggest to me this afternoon, you will regret it to your dying day. I have ample resources to fight any newspaper in this city, and on such an excuse I would do so with the greatest pleasure in the world. I should like to point out a few relevant facts to you. In the first place, the police as a whole are with *us*, not with you. My criminological laboratory, and the deductive work of the members of the Catalyst Club, have been of great assistance to them in the past, and there is every reason to suppose that our assistance will continue. When they are puzzled by some case, they know that they have nothing to lose by submitting the problem to us; and if we are fortunate enough to find a solution, they know that all credit goes to them.

“In the second place, for whatever it's worth, we

have the complete support of *The Times*—a paper with twice the age and reputation of *The Star*, and what's more important, with twice the circulation.

"Further, I recommend you look up the laws of blackmail and intimidation. And in this connection, here's another point. I've been dealing with criminals for a good many years now. As a result, whenever a telephone call comes in which is even slightly suspicious, my switchboard girl has instructions to route it into an instrument on a special extension. This starts an apparatus which makes a permanent record of the conversation. You and I are just about finished with making such a record now. I suggest you try to recall word for word exactly what you have been saying to me. If you and I should come before a court in this matter, would *everything* you have said strengthen your case? Are you sure you weren't a little careless? Are you sure some of your remarks weren't made in the belief that our conversation today could never be more than a question of your word against mine? Perhaps you'd like to change a few things here and there?"

There was a moment's pause, in which could be heard at both ends of the wire a faint rhythmic scratching, as of a steel point biting into wax. Then the editor said, in a tone close to a snarl:

"If you're going to try picking a fight with *The San Francisco Star*, by God you'll get it!"

"No," said Lempereur, "all I'm going to do now is to play back the record you have just helped me make—and try to keep my temper while I do it. Good-by, sir. And don't bother me again!"

QUERIES SHAKE LEMPEREUR!

It was Lempereur's custom to dine every Wednesday evening in the City. He had found that it led to shortness of temper and digestive juices to attempt to get home to Marin County and back again in the space between five o'clock and the meeting of the Catalyst Club at eight.

The telephone call from the editor of *The Star* had left him, on this occasion, even less than the usual amount of time and good humor he devoted to his dinner. In playing back the record of his conversation with Abel Brander, he was given an idea by the mention of Drake's name. As soon as he heard his own crisp "Good-by, sir!" echo from the machine, he put in a call to *The Times*, asked for Drake's extension, and invited the young man to dine with him.

The newspaper man accepted with hungry enthusiasm, and then asked:

"Have you seen the last edition of *The Evening Star*?"

"No," said Lempereur, "but I want to talk to you about that yellow journal."

"You'll have more to say after you see this," came Drake's cheerful voice. "Did you know that the jury brought in a verdict of acquittal for the two big shots of the Collighan mob this afternoon?"

"You mean those brothers we helped the police capture last year?"

"'Helped the police!' I like that! Say, you know that except for the Club and *The Times* they never would have been brought to trial at all!—Incidentally, there's something remarkably phoney about that verdict. You know, and I know, and everybody knows that those guys were guilty-as-hell on every count they were tried on.—But that's not the point. *The Star* gives the trial its usual full coverage, and beside the main story there's a side-bar on the front page."

"Drake, you can talk English, when you want to," said the chemist. "Half the time your newspaper *argot* is simply incomprehensible to a literate person. What do you mean by a 'side-bar'?"

"Sorry," the reporter answered, with little contrition. "I say that in addition to the account of the verdict, there's a separate story about the Collighan case on the front page."

"Well?"

"Well, it's supposed to be an interview with the Assistant District Attorney who conducted the prosecution. This bird is quoted to the effect that the acquittal is a grave miscarriage of justice. He is alleged to have said that they had a cold turkey rap for the Collighans—beg pardon, I mean they had absolutely conclusive evidence—and all due, sezze, to the brilliant work of the members of the Catalyst Club. The name appears in the second deck of the headline, too, printed out in full. That's the first time we've appeared in the papers since you broke *The Journal's* camera, isn't it? I thought you'd be sore."

"Clever. Abominably clever!" Lempereur admitted grudgingly, and chiefly to himself. "It all looks so friendly, on the surface. He didn't waste much time. That must have been on the presses while he was talking to me."

"What's that?"

"Never mind now," said the chemist. "I'll tell you all about it at dinner. Bring a copy of *The Star* with you."

"I can't think what's got into the guys over there," complained Drake. "So far they've always done as you wished about keeping the Club out of the news. It's obviously deliberate, too. No Assistant D. A. is going out of his way to advertise anybody outside his own office; *The Star* people must have put it into his mouth. I can't figure what's going on."

"I can," Lempereur said grimly. "Hang up, and come to dinner."

Among the chemist's favorite restaurants, aside from his Club, was one of those hollowed out of the flanks of the old California Market. He found it convenient to park on the Pine Street side of the great building, and walk through the long gleaming reaches of the market. At this hour it was dim and silent and deserted—a wilderness of glass counters, and white tile, with pleasant smells of cheeses and other foodstuffs, and an ice-box freshness in the air. He walked through the door into the restaurant and was shown to his usual corner table. Drake had not arrived. The chemist asked the proprietor for a copy of *The Star* and had confirmed the truth of the reporter's statements before the latter entered. *The Star's* "side-bar" mentioned the Catalyst Club twice

by name. Lempereur well understood that Brander had meant this story to be a warning that he was not bluffing.

The reasons why the chemist, and at least three other members of the Club, wished to sidestep newspaper publicity were few and clear-cut. Hitherto the papers had practically never referred to the Club in connection with criminal problems which its members solved or helped to solve. Instead, the editors picked some regular police officer who could be dragged into the case in question, and named him as responsible for the solution. As a result of this practice, the Club generally enjoyed the full co-operation of the authorities. The police were anxious to help, and be helped by, these six men who brought such a variety of special knowledge and equipment to the war on crime, and who made every effort to avoid public recognition for their successes. If the newspapers now suddenly began to credit the Club directly, it would seriously embarrass the relations of the amateur organization with the official forces.

And publicity might be not only embarrassing, but also downright dangerous to the members of the Catalyst Club. If they were given unwanted credit for sending men to jail or to the gallows, they would have, as well, to take unwanted responsibility for their acts. Under the old arrangement, if a person richly deserved hanging, they could go about seeing that he was hanged without any great degree of worry; it wouldn't matter how many friends or associates he left behind in the underworld. There was, of course, always some danger of reprisal; the underworld grapevine telegraph might carry rumors of the Club's

activities; some narcotic-primed gunman might consider avenging the execution; but little exact information about the membership and conduct of the Club would leak downward.

Now, however, if the papers began to play the spotlight on the Catalyst Club, to identify the six members and tell when and where they met together, there would be an increased chance of unpleasant sequels to certain of the Club's cases. The Capsten Memorial Circle in Golden Gate Park, beside being a rather quixotic meeting-place, had the further disadvantage of being quite unprotected. It had occurred to various members more than once that it would make an ideal setting for a second St. Valentine's Day massacre,* with somewhat more reputable victims and against a more sylvan Pacific Coast background.

Lempereur was considering such matters with distaste, when Persen Drake, youngest member of the Club and city staff reporter for *The San Francisco Times*, swung into the restaurant and made for the chemist's corner.

Drake's long slender figure threaded the spaces between the intervening tables with the quick precision of a boxer. He had, as a matter of fact, never boxed; he owed his exactness of footwork to hours spent with a little Japanese instructor of *judo* in a loft off Battery Street. On this particular evening, the paradox which characterized his dark face was more than usually evident, for although the corners of his mouth had their customary amused curl, there was no spark of laughter in his deeply set eyes. He pulled a copy of

*The machine-gun butchery of seven underlings of the "Bugs" Moran beer-running gang, February 14, 1929, in Chicago.

The Star from a side pocket as he sat down. The chemist compared it with his copy.

"What do you know about this man Abel Brander?" asked Lempereur, without preliminaries.

"You can't expect me to give an unbiassed picture of him," answered Drake. He looked about, but at this time of evening in the middle of the week the restaurant was practically deserted. "He's a strong man, and smart as they come, and no one to monkey with. But I haven't much use for his editorial policy. Nobody in that whole shop ever heard of the word 'ethics.'"

"That's a word sufficiently unfamiliar to all newspaper men," Lempereur said flatly, challenging the younger man with his gray-green eyes.

"Oh, we do the best we can," shrugged the reporter, who had learned how to join combat with the chemist as much or as little as he chose. "Papers with a feeling of responsibility for the public good are under pretty heavy competition from the ones that will do anything to get circulation. *The Times* would rather not cash in on prejudice, or trade in fear or scandal. We use the soft pedal as much as we can. But what are you going to do when people *want* to have their fears and prejudices aroused, and want dirt, and will pay to get what they want? We have to give it to them, but still our conscience is better than most. Why, before I went on *The Times* I was required to commit practically every felony short of murder for my paper. I burglarized houses, stole photos and valuable papers, impersonated an officer, and everything. I don't remember that *The Times* has ever asked me to do anything worse than a misdemeanor." The reporter fin-

ished with the smile on his lips creeping upward into the corners of his eyes.

"Mister Abel Brander of *The Star*," said Lempereur bitterly, "seems to have no qualms about committing blackmail, at any rate."

"Before you tell me about that, how would it be if we ordered?" Drake grinned. "I could eat a raw dog."

Lempereur was ordinarily something of a gourmet when less disturbed; he agreed, and the diners reached a common ground on bowls of chowder and platters of that specialty of the house, steamed mussels *à la Bordelaise*. Over the rising midden of slate-colored shells in the center of the table, and through the fragrant vapors of this noble dish, the discussion continued. The chemist reported in full his conversation with Brander, the recital accompanied by a steady procession of mussels through the hot golden butter into his strongly designed mouth. He chewed on each as though it had been Abel Brander, the jaw muscles rolling under his ruddy cheeks.

The newspaper man put in a second order, finished it, and finding himself still unfilled, ate two large slices of pie.

"He must be a highly intelligent man," concluded Lempereur. "He has understood that he can attack us with praise, an unusual weapon. He evidently plans to use that first. Under different circumstances, I should welcome a duel with such an unscrupulous intellect."

"Maybe he won't dare carry it any further than a threat," Drake said. "But if it comes to a fight, and he stays within the letter of the law—as he'd be a fool

not to—it'll be just us against *The Star*. The Catalyst Club won't be able to get any help from *The Times*, officially, that is. Of course, T. M., anything that individual reporters or editors can do, will be done. But, frankly, if Brander isn't bluffing, and sees some reason to put the heat to us, we'll be in a tough spot. As long as he thinks praise can hurt us, he will claim he's acting from the highest motives; he'll say that he's just giving us a hand that the papers should have given us long ago for our fine work. The public will believe him, because the way things stand nowadays people are out to grab all the credit they can for anything they do—anybody who avoids publicity is just looked on as plumb crazy."

"That," said Lempereur, "is at least the newspaper point of view."

"Oh, lots of people agree with us," the reporter said cheerfully. He swallowed the cube of American cheese that had served as chaperon for his second piece of pie. "The Club will have no allies as long as he's patting it on the back. Then, when he decides he's done all the damage he can with praise, *The Star* will suddenly find that it has been mistaken all along—that instead of being the hot stuff they thought we were, we are really a sore spot which needs an *exposé*. We get in the way of the cops; we frame evidence; and so forth, and so forth, bazoosis, bazoosis. Then the law may be able to help us. We may end up in court yet if he goes through with it. You better play that record over to Len Sloat. He'd be able to tell if it was admissible as evidence, and whether it proves intimidation, or not."

"It certainly proves that Brander's motives are not

friendly, as you might be led to think from that news article," said Lempereur.

"It's a lucky break you got that record," agreed Drake. "Keep it locked up and in cotton."

"I shall," the chemist assured him, and looked over his shoulder. A large party of young men and women, roaring with laughter, had entered the restaurant. They called for the combination of smaller tables into a larger board, and appropriated the center of the floor. The chemist and his companion abandoned the restaurant to them, and went out to Lempereur's car.

Through the cool darkness that lay upon the city the big sedan loitered out Market and Hayes Streets toward Golden Gate Park. They were early, and in no hurry to arrive at the meeting-place. Lempereur, who would never let any one else handle his car, drove with a certain rigid competence, not timidly, but without the flashing sureness that marked the performance of the reporter.

The harsh neon signs had blossomed over the store windows as they rolled westward; the sidewalks were beginning to flow with people as the evening tide set inward toward the theatre districts. Lempereur paid little attention to them, occupied as he was with the problem of Brander's challenge and the slow pain of his friend's death; but Drake, when they slowed at intersections, noticed with satisfaction, as he always did, how many good-looking men and pretty girls walked among the crowds, how young and light-hearted all the strollers seemed as they moved through the clear and sea-sweetened air, through a half light that smelt of Spring before March had yet begun.

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handle, a thought struck the reporter which startled him out of his after-dinner contentedness.

"Say, T. M.," he observed suddenly, "it was tough about Doctor Hunter's dying. You'd known him for years, hadn't you?"

"Yes," said the chemist, "at least thirty."

"I'm sorry. It's too bad. Did you say this guy Brander implied that it was a mysterious death?"

"He did, but he jumped to that conclusion because he found out that I had been at Hunter's house. He didn't know we were friends; he thought I was 'investigating' the case."

"You're sure that's the only reason?" asked Drake, with the quick suspicion raised in a newspaper man's mind by any unexplained activity on the part of a rival. "You're sure he didn't have some other information? I suppose it's quite certain Doctor Hunter died perfectly naturally?"

"Of course it is," said Lempereur, obviously nettled. "His death came as the culmination of a recognized disease, from which he had been suffering for months. I was present, and so was a physician, when the end came."

"I'm sorry," Drake apologized. "Don't get me wrong, T. M. I had no idea you and he were close friends. I'm just a little gun-shy when I see *The Star* going into action about something, that's all."

The two men were silent, but a faint furrow of thought remained on the reporter's forehead when they parked on the grass by the side of the South Drive, and walked down through the eucalyptus and evergreens to the Capsten Memorial Circle.

Early as they were, some one had reached the circle

before them. The open fire on the eastward-facing hearth had already been kindled, and the light poured upward from above the high masonry wall, flickering through the stirring foliage that pressed in upon the coping, burning against the buff boulders of the tall chimney that faced west. There was no fog to hide the first hardy stars pricking out overhead; only a tattered webbing of smoke drifted from the chimney-top before the light northerly breeze. As Lempereur and Drake approached, they could hear from within the wall the sputtering of a green log, and a small absent whistling. The latter sound was that of a man contentedly busy, unaware that he was whistling, and absolutely tone-deaf. It derived, at long remove, from the tune of "The Man Who Could Play on the Horn," and it stopped abruptly as the two newcomers stepped through the arched doorway into the light.

Cyriak Brill-Jones, permanent secretary of the Catalyst Club, greeted them with that trace of embarrassed confusion from which he was rarely able to free himself, even with his friends. He was a good head shorter than either of his associates, and but slightly over half of Lempereur's square and solid weight. The clothes that hung on his scraggy little body were shapeless, somewhat too big for him, and smelt faintly of the fish that he watched over in his working hours as assistant curator of the aquarium. His brown Van Dyke beard, which was beginning to be shot with gray, and the oblique way that he glanced upward through his rimless *pince-nez* gave him the effect of a small, whiskery, and anxious but friendly dog.

Lempereur was often out of patience with his shyness, and Drake found his appearance a permanent

source of secret mirth, but no man on earth had tied himself into their affections more strongly than Brill-Jones, and the other three members of the Club felt exactly the same. A mind and a spirit glowed in the ichthyologist out of all proportion to his meagre body; he was an internationally recognized authority in his field of study, and one of the best hands in the group at sorting and synthesizing the complicated elements in a criminal problem; he was devoted to the interests of the Catalyst Club (his only avocation), loyal without question to his friends, generous to the point of absurdity, and on top of this full of genuine humility. His associates found themselves continually slipping into the position of protecting him against the world that he was so ill at ease in meeting, and all of them, with varying degrees of reluctance, would have given their lives to save his, if it had been necessary. They knew that Brill-Jones, in an emergency, would consider it a privilege to go that far for any one of them.

"I finished ahead of time at the office," he observed carefully, as though an explanation for his conduct were due Lempereur and Drake, "so I just came over here and got the fire started, and put the coffee pot on."

The secretary's arms were full of split logs, which he was carrying in from the pile outside the wall, where they were regularly stacked by the city of San Francisco. The wood, like the use of the circle as a whole, was given free to those citizens who were able to secure a license from the board of park commissioners. The Catalyst Club had thus been guaranteed, for every Wednesday evening in nearly eight years, ex-

clusive occupancy of this pleasant, if somewhat unusual, meeting-place. On other nights the circle was reserved by a variety of groups, most of them younger in average age, and all of them more in keeping with their outdoor surroundings than the members of a club chiefly devoted to the solution of criminological puzzles.

The sheltered space between the two hearths * had come to satisfy the men who met there to such an extent that they put up with the inconveniences. Lempereur's laboratory, or Leonard Sloat's library (where they foregathered in the early years and still went in rainy weather) might have been more conducive to serious work. However, serious though the results of their collaboration often proved, they pursued the answers to their problems as lovers, rather than minions, and therefore could do so under such circumstances as pleased them best. Further, men who have tasted woodsmoke and the stars grow sated with ceilings and an electric heater. Newton Bulger, merriest and roughest of them all, had been the first one to know this flavor. With the approval of Drake, he had dragged the older men, protesting and dubious, into San Francisco's thousand-acre playground. A few visits to these scented groves, dark, silent and deserted after nightfall, had given the taste to all of them, except the retired lawyer, Len Sloat.

(Sloat had attended one gathering in the circle; "Bunch of boy scouts, that's what you are! It's too drafty for a man of my age. I'm going home. Emilio! Bring the car down to that gate. Any time you get stiff necks, my library is always open to you. We'll

*See Plate I, frontispiece.

have a drink. Gad! This place is enough to give a man pneumonia!")

In spite of Sloat's defection, the others met more and more regularly here, and on a clear mild evening like this one, it seemed surprisingly snug.

Brill-Jones flung his armload on the thriving blaze; the logs piled up with a wooden ringing; a burst of sparks hustled up the flue and danced downwind out of the chimney-top. Warmth, and orange-yellow light, and the faintly sour smell of igniting green oak, flowed from the fireplace and filled the walled enclosure to the brim. Lempereur and Drake sat down on two of the wooden benches that fronted the hearth. The reporter packed and lighted a pipe, and watched the puffs of smoke he emitted as they swelled, hesitated, began to drift toward the fireplace, and at last were whipped out of sight by the hungry draft under the nearly flat stone arch. Brill-Jones pottered about, hooking forward the crane to put the soot-blackened pot in better relation to the heat, disposing on one of the rough tables the five enamelled cups and plated spoons, the can of condensed milk, the box of lump sugar, and the paper bag that contained (from the grease spots on it) either doughnuts or "snails."

Drake and Lempereur had agreed not to initiate discussion of *The Star's* challenge at this meeting. If another member brought up the question, it would have to be dealt with; otherwise no time would be wasted on it in the event that the chemist had already turned Brander's attack. Consequently, they did not mention it now to their small associate, an omission they were bitterly to regret.

"Did you see the Collighans were acquitted?" asked Drake.

"No, really?" Brill-Jones said, looking shocked. "They should have both been sentenced to death. Both those brothers were bad lots. Why, we have enough material in those minute books—" he nodded at the low stack of black loose-leaf journals on the nearest table—"to hang them twice over. The prosecution had all our findings, and I thought from what I saw in the papers that they presented it very well. What happened?"

"You know juries," Drake shrugged. "Twelve good men and true—maybe good and perhaps true. We understand that two of them held out for acquittal from the first. For a time it looked like a hung jury. Then one after another the ten for conviction got tired and swung over. They decided to 'give the poor boys another chance.' "

"Those wolves!" snorted Lempereur. "It disgusts me to have two probably corrupt jurymen undo all that work I did in my ballistics laboratory, not to mention what the Club did as a whole. It's certainly anything but the type of case I relish, but we'll have to decide sooner or later whether we want to reopen it, and repeat all the effort again. No society can be safe with men like the Collighans at large in it."

"I imagine we'd better wait until the meeting is called to order," said Brill-Jones, the strict parliamentarian. "We can deal with the matter under Unfinished Business. To discuss it now is irregular."

Drake smiled faintly, and looked at Lempereur. The chemist's bold and handsome face was turned to stare thoughtfully across the brightly illuminated

circle toward one of the entrance doorways, beyond which lay the whispering pines of the aboretum—and blackness. The reporter read his reflection, and echoed it. A man might stand at his ease in that darkness beyond the wall, have a clear view of all within the enclosure, and be invisible to them. He would only have to stand there for a few seconds; a “Tommy gun” works fast. . . .

Above them, a car drew to a halt on the South Drive. The pine needles on the slope rustled beneath more than one pair of feet.

“Here they are, now,” said Brill-Jones.

Drake nearly asked, “Who?” grimly, but it was, of course, the remaining two active members of the Catalyst Club.

Doctor Alexander MacCarden stepped into the light first. The old Scot, from long habit, ducked his fine head as he passed under the arch. As a matter of fact the stonework was six-feet-six above the ground, and cleared MacCarden’s silver-white hair by an inch. For an instant, however, he seemed to fill the opening, not only bodily, but with a personality as big as his frame, a character as strong as his great hands, a tolerance as broad as his shoulders, an understanding as deep as the shadows about his ice-blue eyes. Saying nothing, but sweeping the three earlier arrivals with his gentle smile, he walked to one end of the group and sat down quietly. As soon as he had uncorked the entrance, through it rolled the loud and jocund presence of Newton Bulger.

“Hi, Buzz; hullo, T. M.; howareyou, Cy! Gentlemen!” and he brought into the circle a fresh odor of chewing gum. “You know, boys, I’m getting Doc

broke in to riding in a car. He let me bring him over again tonight; he didn't like it much—he'd rather walk, or take a trolley—but just give me time. I'll yank him into the twentieth century yet. It's a crime! Here are all these engineers and scientists and manufacturers working their heads off, day and night, to fix it so people can get around easier and quicker and more comfortably, and Doc, here, would rather walk! And speaking of scientists reminds me; I've got a hunch." Behind gleaming horn rims, Bulger's face was all laughter drawn exclusively with a compass. It was impossible to resist the infection of his wood-chuck grin, but while his associates smiled they could sense a less frivolous undercurrent.

Bulger's services to the Club were various. As Native Son, ex-cowpuncher and rancher, ex-miner and mechanic, and most recently as western sales manager for the Pittsburgh Equipment Corporation, he had accumulated an unequalled knowledge of California and the people in it. A wizard in mechanical matters, there were few tools or pieces of machinery that he did not know all about, and these elements had a way of cropping up in many of the Club's cases. He was the equal of Drake as an observer, and frequently went along with the reporter when the need was to collect evidence. The difficulty experienced by his friends was that he held these qualifications in little esteem; his real genius, he was convinced, lay in the field of deductive reasoning and insight. It was on this ground, where he was outdistanced by every one of the other five members, that he longed to do battle with them and prove his superiority. In consequence, the others were continually having to deal with wild theories on

his part to which he clung with great stubbornness. They had learned to dig in hastily when he showed signs of announcing any theory.

Drake, who was geared to Bulger more directly than the rest, now looked at his friend disapprovingly, and said:

"Newt Bulger, the Galloping Gaucho, will now substitute in the position of left hunchback on this team. Pal, you better stay with me in the line, where your weight will do us some good. We've got a good back-field already; you better leave the thinking up to them. You're liable to strain yourself."

"No kidding, Buzz, this is a good hunch," declared Bulger, his expression dropping toward gravity, but leaving his face as circular as ever.

"I suppose we won't be able to escape it," Drake sighed. "Shoot!"

"Well, I don't know whether you boys noticed it or not," the stout man went on, "but one of our greatest scientists passed away today—Doctor John Hunter. He was a physicist; they say he used to bust up atoms like you would crack nuts."

He paused. The others were watching him, but no one offered comment.

"Well," said Bulger, "I've got a hunch, from what I've heard, that there was something queer about his death. I suspect foul play."

"Good God!" Lempereur exploded, as this suspicion was presented to him for the third time. "What the devil is the matter with everybody today? Isn't it possible for a man to die a natural death any more?"

CAT. CLUB IN STORMY MEET!

"Sure, sure," said Bulger. "I'll admit there's always that chance; he might of died a natural death. On the other hand, any man as successful as he was, in a scientific way, is bound to have made some enemies. Like as not, they'd be scientists, too, and if they wanted to get rid of a man, they'd do something smart and sub-tel. They wouldn't stick a knife in his ribs. It would look like a natural death when they got through, maybe. Why couldn't it be that he was poisoned; how's that for an idea?"

"Alimentary, my dear Watson," grinned Drake. "Alimentary!"

The stout salesman, always ready to laugh with any one, assumed what he regarded as a pained expression.

"Say," he exclaimed, "that's terrible! Where the hell do you get all these long words?"

"I bought the rights to that one off of MacCarden, for three dollars and four bits."

"I'll bet you did. Say, they give those kind of words away, and longer and stronger ones, too, for nothing, down at Fisherman's Wharf when the boats come in. . . . But, no kidding, why couldn't somebody have had a grudge against Professor Hunter?" Bulger asked, and looked around the semicircle a shade

wistfully. "You know we haven't had a good sizzling case since that society gal was chewed to pieces down in Burlingame." *

"Preposterous!" declared Lempereur. "I knew him during most of his life and he was well liked by every one. He had no enemies; I'd go on oath to that. And who do you mean by 'somebody'? Other workers in the field of atomic research? I suppose you think of science in the gross commercial terms to which you are accustomed in your own work, as a cutthroat business. Perhaps you picture some one from the University of California sneaking over to this side of the Bay and slipping some strychnia into his soup?"

"Well, why not? What did he die of?"

"For some reason," the chemist said, "it has been necessary for me to explain, until I am fairly sick of the whole matter, that he died of anæmia, and that I was present when he died, and that he was a very close friend of mine."

"Oh," said Bulger, "I didn't know that. I'm sorry. I wouldn't of brought it up."

"Mmm," Lempereur assented, and there was a pause fairly well filled by the crackle and hiss of the fire.

"By the way," said Drake, helping out the fire. "You were speaking about the Brenda Chalis case. I've been meaning to ask Mac for several weeks if that guy who committed the murder is any better. It still gives me the shakes to think of him the way we last saw him."

*Brenda Chalis, whose murder was the Club's one hundred and twenty-sixth problem; fully dealt with in *The Catalyst Club*. (Scribner's, 1936.)

"Now, forgive me for interrupting, but that's clearly Unfinished Business," Brill-Jones put in, as he opened the black notebook on one knee, and adjusted his *pince-nez*. "Couldn't we call the meeting to order, and proceed in a proper manner? It always makes it much easier for your secretary."

"The meeting is called to order, and we will dispense with the reading of minutes of the last meeting, as usual, if there is no objection," Lempereur announced, and Brill-Jones nodded his approval.

"There is nothing left over from the last meeting which demands our attention."

"Since we have no committees to hand in reports," grinned Drake, whose inclinations were highly unparliamentary, "that brings us smack-bang up against Unfinished Business, doesn't it; and I can ask Mac the question, can't I?"

"Yes," the little secretary said, precisely, and opened his pen.

Four pairs of eyes turned expectantly to where MacCarden's great body was hunched on his bench, the yellow light striking squarely upon his calm, lined face, and changing his mane of silver hair to white gold that had started to revert to its natural color.

"It was on my mind to tell you last time," said the doctor's deep and rolling voice. "The lad died two weeks ago at the Napa State Hospital. . . . He remained as you saw him, to the end. It is better so. We did everything that could be done. He was fey, poor lad."

"*Le chatiment suit le crime d'un pied boiteux*," said Lempereur, sententiously, returning, as he often did, a Gallicism to match MacCarden's Scotticism.

"Sho', sho'," Bulger agreed.

"You don't know what that means," Drake told him, "but to me it's an open book. He says, in general, that no matter how long it takes for justice to catch up with a guy, at last it kicks him in the seat of the pants, with a heavy foot."

"Thanks," said Bulger, without gratitude. "Say, Buzz, whatever happened to the gal who was mixed up in that case—the sunburnt blonde who used to make you think of honey and brown sugar?"

"Stanice Hathaway? You got me; I must ask our society editor. They didn't get married. You knew that, didn't you? That suits me all right; I always thought she was too good for him. I liked that gal; I've always been meaning to look her up, some time when I have a spare year. I certainly must find out where she is," the reporter concluded thoughtfully.

The members of the Catalyst Club devoted a few seconds to a silent consideration of Miss Hathaway, who had made a pronounced impression on all of them. Then Bulger, with characteristic reluctance to be shaken off an idea, returned cautiously to the earlier subject.

"I guess," he said, clearing his throat. "I guess Doctor Hunter's dying like that, when he was right in the middle of his active life, is a great loss to civilization."

Lempereur looked suspiciously at the other, but Bulger's expression was that of innocent interest. The chemist accepted the remark at face value.

"A brilliant scientist," he agreed, "and a charming person into the bargain. The real tragedy of his

death is that he was possibly on the brink of discoveries which would have revolutionized modern life."

"How come?" asked Drake, with sharpened attention.

"I assume you have some superficial acquaintance," said Lempereur, "with the character of the work he was doing with the magnetic resonance ion accelerator, popularly called a 'cyclotron'?"

"Sure," Drake said readily. "It's a Death Ray, or something, isn't it?"

"It is *not* a Death Ray," snorted the chemist. "I cannot understand why that rubber stamp is practically the only thing that the newspaper mind can grasp about science. Either a scientist is working on a Death Ray, or he is not working on a Death Ray. It happens that Hunter wasn't, and the papers have acquired the habit of referring somewhat flippantly to his apparatus as an 'atom smasher.' You must have seen some of the highly inaccurate notices of the work going on with apparatus of that type. A number of them have been built recently at various universities."

"Oh, the atom buster," said the reporter. "Yes, I've read about it."

"It has received little enough popular attention," Lempereur went on, "but I regard it as among the most promising pieces of scientific equipment which have yet been devised. With its aid we have forced our way into the very center of the atom. It may prove to be the key to two secrets that men have sought after for centuries. No one was deeper into an understanding of those problems than John Gregory Hunter."

"What two secrets?" asked Drake.

"The puzzle of the energy locked in the heart of the atom, and the secret of the transmutation of matter—what the alchemists in the Middle Ages called the philosopher's stone. The cyclotron is the philosopher's stone. We know that already. With it we can change one substance into another, and we have done so. This half of the search bore its first fruit in 1931 at Cambridge, when Cockroft and Walton * broke down the element lithium into helium. The most recent triumph was at Berkeley, early this month, when Livingood got artificial Radium E from bismuth."

"Hold on a minute," said Drake. "Do you mean these birds can change lead into gold, for instance?"

"I can see no reason why not," the chemist said, a trifle coldly, "except that there are many more interesting transformations to spend one's time on, and it would cost one more to make the change than he would get out of it in value of gold. The energies that must be put in to make the transmutation are, of course, enormous."

"Oh," said the younger man, subsiding.

"My late friend was more concerned with the atom as a potential source of power, although only incidentally. John Hunter pursued truth for its own sake; he had no interest in the commercial aspects of his findings."

"I can't see any commercial aspects," said Bulger, candidly. "An atom seems to me mighty small punkins to get power out of. Those little things that

*As reported in their epoch-making paper in Proc. Roy. Soc. A137,229 (1932).

you can't even see! Now, a bucket of gasoline, or a hunk of coal; you can put your finger on those. Anybody'd know you can run an engine with them."

"Apparently you have never heard the old statement that there is enough energy hidden in a glass of water to drive a steamer across the Atlantic?"

"I've heard it lots of times," Bulger returned. "But I've never seen proof. I thought it was a joke made up by the Anti-Saloon League. Are you telling me that a tumblerful of water, which I would willingly put in my belly if I couldn't get anything more exciting, has enough wallop in it to drive the *Queen Mary*, say, from New York to the other side?"

"If I knew the size of the power plant on the *Queen Mary*," Lempereur told him, "I could work out the proof very simply for you."

"How could you have missed a thing like that?" asked Bulger. "The *Queen Mary* is powered by four sets of quadruple expansion turbines, each generating 50,000 horsepower, a total output of 200,000 horsepower. You're telling me that you can squeeze that much out of a glass of neckwash?"

"I believe so," said the chemist, taking a pen and an envelope from the pocket of his jacket, and a small black book from his hip. He started to scribble on the envelope, and referred occasionally to the book when he needed an equivalent. "200,000 horsepower is equal to 1.492×10^5 kilowatts. How long does the vessel take to cross?"

"Say ninety-six hours," said Bulger, looking at the chemist a bit apprehensively.

"Mmm," murmured Lempereur, busily at work,

with his black head bent over, and the sheet tipped downward to catch the light of the fire. "Total energy output, 96 times 1.492 times 10 to the fifth power . . . equals 1.432 times 10 to the seventh. . . ."

The reporter and Bulger sat quietly and stiffly on their benches, as those watching a giant in labor, and regarded their associate with a mixture of mock temerity and awe.

After a period of muttering, Lempereur glanced up and announced: "I am assuming a glass of water containing exactly one-half pint. All right?"

"Oh, positively," Bulger assured him, hastily.

For perhaps three minutes the chemist scribbled, growing silent as he progressed toward his solution. The fire crackled, and the breeze strolled through the tree-tops, and faintly over the wall, as though it had travelled for miles through deep forests, drifted the far sound of the city's traffic. Lempereur finally emitted an exclamation of surprised annoyance.

"Are you sure of the size of the *Queen Mary's* engines?" he asked. "She must be an enormous vessel."

"Biggest in the world," said Bulger, with satisfaction. "What's the matter? Won't that little glass of H_2O push her?" And he grinned at his friend.

"No," Lempereur said seriously. "I had no idea she was so heavily powered. To drive her all the way across the Atlantic would require the atomic energy in a fraction over three glasses of water."

"You're kidding me, T. M.," said Bulger, his eyes as round as the rims about them.

"There's the way it works out." And the chemist handed him the envelope. On it was written:

"1 gal. = 8.33 lb. 1 lb. = 454 grams.

$\frac{1}{18} \times 8.33 \times 454 = 236.1$ grams, weight half-pint water.

Molecular weight of water = 18.016; 2.016 of this is H_2 . Hydrogen content of water, 2.016 over 18.016 = 11.17% hydrogen.

11.17% of 236.1 gms = $.1117 \times 236.1 = 26.4$ gms of H_2 in glass water.

Energy equiv. 1 gm H_2 = 1.812×10^5 KWH.

\therefore Energy release from H_2 in glass of water = $26.4 \times 1.812 \times 10^5 = 4.79 \times 10^6$ KWH, or 4,790,000 kilowatt hours.

But *Queen Mary* requires $96 \times 1.492 \times 10^5$, or 14,320,000 kilowatt hours, so something better than $1\frac{1}{2}$ pints needed."

"Well, well!" said Bulger, almost immediately handing the slip to Drake. "What do you think about that!"

The reporter frowned down over the figures for a longer time.

"I don't understand how you can go flip-flop from horsepower to kilowatt hours, and from grams to kilowatt hours the way you have here," he said.

"That is, of course, accepting Einstein's elaboration of Prout's hypothesis," explained Lempereur. "—the $E=c^2m$ equation. Mass and energy are different measures of the same thing."

"But I don't see what all this energy comes *out of*."

"It is the energy which would be left over and given off if all the atoms of hydrogen were converted into atoms of helium; you see that, don't you?"

"Oh," said Drake vaguely.

"If you say that that proves it, T. M.," Bulger de-

clared, "I take your word, although God knows it's Choctaw to me. What I'm expected to believe now is that there is enough wallop in three glasses of water to drive the biggest ship in the world across the ocean?"

"Of course, the proof is still in the realm of theory," Lempereur told him, "but we do know that the energy is there. We have converted hydrogen into helium. The problem is still unsolved how to get that energy out on a commercial scale—and control it when we do."

"And you mean," asked Bulger, "that Doctor Hunter was working with a machine which would not only change one kind of metal into another entirely different metal, but would switch hydrogen into helium, or what have you, and get out some of the energy you tell us is in the atom?"

"That is correct," Lempereur agreed.

"Then Doctor Hunter was monkeying 'round trying to uncork a source of power which would give us more energy than we could ever burn up?"

"Your taste for melodrama betrays you," the chemist said dryly. "I keep repeating that John Hunter's interest was in finding out the truth, the true constitution of the basic elements of matter and force."

"But," asked Drake, "he might, just incidentally, stumble on something that would have tremendous commercial value?"

"'Tremendous' would be a weak word for the change which would be wrought by the discovery of a way to harness the energy in the atom," said the chemist. "'Revolutionary' would come closer to it."

"How near was he to such a discovery? Have you any idea?"

"No; but I imagine at a considerable distance still. There are grave obstacles between us and the solution to that problem just yet."

MacCarden turned his great head, contributing a deep rumble:

"And a good thing, too, no doubt."

"Why is it a good thing?" demanded Lempereur, bristling. "Would you put limits to our knowledge of the truth?"

"You ken yourself, man, that a human being may not be big enough to receive the truth. I'm no so sure that any man alive would be big enough to handle a truth the size of the one you're talking about."

"Well, make up your mind to it," shrugged the chemist, "this truth may be forced upon you whether you like it or not, within your own time. All over the world men are prying into the secrets of the atom. Tomorrow, this week, next month, some physicist or chemist may see the answer suddenly, like a flash of light. For all we know, the discovery may already have been made. Some scientist may be writing down the solution as we talk here tonight; perhaps I shall find it in the morning among the papers John Hunter has asked me to edit for him. I hope, at least, to uncover sufficient important new material to make a fitting memorial to him. He was very busy during the past year, in spite of his illness, and he published nothing on his findings."

The reporter swung on his bench, and looked thoughtfully into Bulger's eyes.

"Doctor Hunter was playing with dynamite," he

said, half to himself. "And he died of natural causes, at the age of fifty. You know, that kind of intrigues me."

The stout salesman met Drake's regard, and nodded slightly.

"Look here," said the young man, abruptly facing Lempereur, "suppose Doctor Hunter had made some discovery of large commercial importance. What would he do about it? Could he patent it? How would he go about cashing in on it?"

"What sort of man do you take him to have been?" asked Lempereur, sharply. "He was above consideration of personal gain. Anything of value that he discovered he would have wished to give freely to the world."

"Was he independent financially?" pursued the newspaper man.

"Well, no," Lempereur admitted. "He was backed by young Winfield Richmond, who worked with him. But Richmond always gave him *carte blanche*."

"Where did they do their work? Where's the laboratory?"

"I have never been there," said Lempereur, "but I understand it is in South San Francisco, out on the flats near the Bayshore Highway. I am going down there tomorrow."

Bulger and Drake again looked at each other, and the former winked with the speed of a camera shutter.

"Say," drawled Bulger, "I haven't anything very important on the slate for tomorrow, and I'd give a lot to see that atom-busting machine. Would you mind if I trailed along with you? What time did you figure on going down?"

"About ten in the morning. I have no objections to your coming with me, if you can assure me you will exercise a little tact. Don't forget that they will all be more or less upset by Doctor Hunter's loss."

"I'd like to go, too. But ten o'clock is a godawful hour to get up," groaned the reporter.

"Under the circumstances, I'm not willing to conduct a sightseeing excursion," Lempereur informed him.

"Oh, I wouldn't give you a bit of trouble. I'm a quiet feeder and a help about the house. I'm on night rewrite tomorrow and I want to see what they mash atoms with, too. I'll just take a look around and then steal quietly away."

"He and I could go down in my car, and leave you free," Bulger suggested, as though the idea had struck him that instant.

"Very well," said the chemist. "I will ask them to let you in; but I expect to be busy, and I trust you to keep from being under foot."

"Count on us," said Drake, and with that the meeting proceeded to other matters.

But no one brought up the challenge of *The San Francisco Star*.

VANDALS LOOT LAB.!

Shortly before ten o'clock of the morning following the meeting, Lempereur's big sedan turned left from the Bayshore Highway into a delapidated gravel road. The chemist was at the wheel, and beside him Frances Hunter sat leaning a little forward, her white hands clasped in her lap, her pale quiet face fixed on the building they were approaching. She still looked utterly fatigued, although she had slept (as if she had taken Mrs. Mulcahy's bromide) from three of the previous afternoon until eight this morning, but she had insisted on going with Lempereur to help him collect her uncle's material. As a matter of fact, he had suspected he would be able to do next to nothing without her, since Hunter had kept most of this material locked up in a safe in his office, and his niece was the only person to whom he had given the combination. Frances, moreover, as her uncle's secretary, knew almost as much about his work as the physicist himself.

The day was heavily overcast, evidently making up for one of the closing storms of the rainy season, and the building ahead of them, standing naked and alone on the great salt marsh to the southward of the city, had a forlorn appearance. It was walled with gray concrete blocks and glass reflecting the gray

of the sky and the sad color of the marshland, and roofed with gray corrugated iron. It had the lines of a hangar, having indeed been built as an aircraft factory. Fading letters on the end facing the road still spelt the name of the bankrupt company from whose creditors Winfield Richmond had bought it. The gray waters of the Bay beyond it, and the high tension electric line marching between it and the highway, suggested why Hunter and his backer had chosen this out-of-the-way location. They could buy all the power they needed, and the large quantities of water required for cooling their apparatus they could get from the Bay at no cost above that of pumping it.

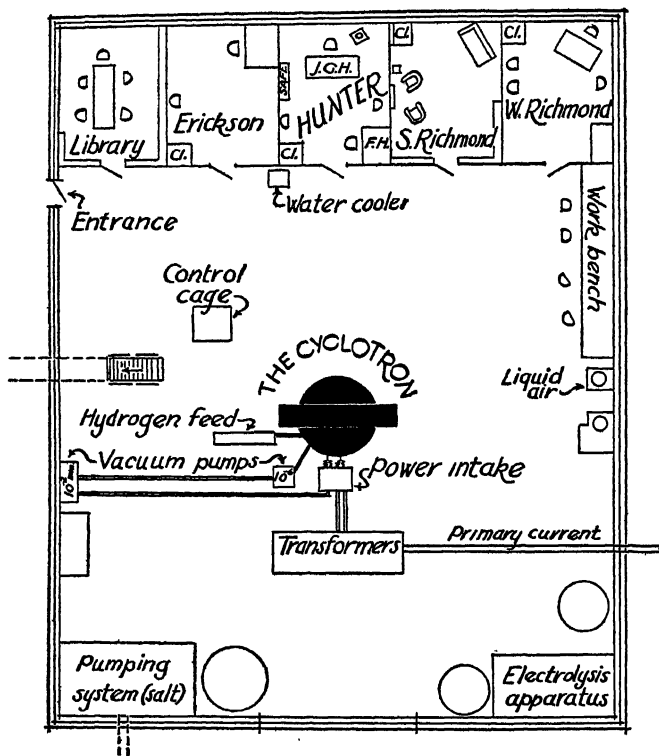
The gate in the high wire fence that enclosed the space about the building was open; a car—a cheap make of “business coupe” several years old—was parked near the door in the gray wall. Lempereur halted his long low sedan next to it. As he was getting out, a second sedan, no less opulent in appearance than his own, pitched and rolled in through the gate and within it he could see the faces of Bulger and Drake. He had hoped they would change their minds about coming.

Frances Hunter walked to the sheet-metal door in the long face of the building, opened the spring lock with a key she took from her purse, and she and Lempereur entered, leaving the entrance ajar for the two others.

The chemist took in the contents of the big shed at a glance.* On his left was a row of glass-panelled doors in a flimsily constructed partition, behind which he assumed were the offices of the scientific staff. No

*See diagram, page 62.

other effort had been made to wall off sections of the floor space; with all the room he needed, Hunter had



Plan of laboratory of the late
Dr. John Gregory Hunter

simply placed his equipment according to the most convenient plan and left everything open and readily at hand. Toward the far end of the building, the chemist could see a pile of tanks and machinery that he identified as the water-pumping system; in the

other far corner was an outfit for the electrolysis of hydrogen. His trained eye, in a split-second look, told him that there was something quite unorthodox about this installation, and he made a half-conscious mental note to observe it more closely at the first opportunity.

In the center of the garage-like room stood—or rather, crouched, since it looked so broad and heavy for its height—Hunter's cyclotron, the "atom smasher" of the newspapers.* In essence an enormous electromagnet with a vacuum chamber between the poles, it thus far resembled the original magnetic resonance ion accelerator built by Lawrence and Livingston at the University of California,† Hunter's cyclotron, however, being custom-made and of a later date, was much more efficiently designed than the pioneer apparatus across the Bay. It weighed nearly thirty-three tons less than the earlier machine, and in spite of this could easily top the 6,000,000 volt maximum production of the Lawrence model. Moreover, it could do so at a cost of approximately 1/1000th of the amount of electric current put in. This was thanks to improved design of the cores and pole-faces, and to the fact that Winfield Richmond had been willing to stand the staggering expense of forty-two tons of ferro-cobalt for the iron portions of the apparatus. At a further heavy cost the atom smasher had been so modified that it could be operated by only one man.

There were no lamps turned on in the building, and the cold-colored light filtering in through the glass

*See plate II, facing page 64.

†Described in detail in *Phys. Rev.* 40, 19 (1932).

walls gave the cyclotron a strangely sinister appearance. It was painted flat black all over, except for the dull gleam of brass and glass in the jaws of the magnet; it rose half again as high as a man and squatted out to double a man's height; it resembled a powerful crushing mill—as though the smallest known crumbs of matter could be squashed between steel hammers. It was not in operation now, but it did not look dead—only waiting. The machine had outlived its creator, and while no touch would ever again arouse Hunter, his creature could be awakened by any instructed hand. A switch closed here, a few valves turned there, the pouring in of a fuming draft of liquid air at this point and that, and the cyclotron would take up again the blind life for which it had been built. This life was one of ordered destruction, for the cyclotron was in every sense a weapon, a weapon with which the bold scattered men of the advance guard of science were smashing a way forward into the unknown. The great black bulk crouched in the middle of the hangar with a certain brute impassiveness, cold and silent, but ready at any moment to build and build within itself such forces as could hurl a projectile at energies over twelve million volts and burst asunder that most impregnable of fortresses, the nucleus of the atom.

In front of the apparatus, made small by contrast with it though he was not a small man, moved Doctor Hugo C. Erickson, Hunter's chief assistant. He was busy with a floorbrush, sweeping the concrete before the cyclotron, and he glanced up as Lempereur and the girl approached the center of the building. He was a well-built man in the early thirties, as tall as



THE HEART OF THE LATE DR. JOHN GREGORY HUNTER'S CYCLOTRON

Power intake on left, coils, valves and vacuum chamber on right

the chemist and perhaps nearly as heavy; the details of his figure were concealed beneath a clean but shapeless overall suit. He had short sandy hair, a clear blue eye, and an expression hinting at intelligence and strength of purpose. The regularity of his features was marred by a long white scar, which must have been a serious injury at the time it was made, running from the bridge of his nose across the right cheek to the corner of the jaw bone. While this mark suggested a sabre cut, and in consequence gave him a rather hardy and devil-may-care appearance, it had no such romantic derivation. Dr. Erickson was among that increasing number of unfortunate people who, at one time or another in their lives, have had their heads passed rapidly through the windshield of an automobile. What was still more unfortunate, he was very conscious of the scar, considered himself worse defaced than the fact warranted, and in consequence suffered sharply in his more social contacts. He was very stiff now, as he addressed Frances Hunter.

"I suppose I don't need to say I'm sorry," he said. "I mean about your uncle, you know. I suppose there's nothing much I can say."

"Thank you," the girl answered, a little tightly, too.

"You know what a loss to us he'll be—not having him here—will be to us out here. You know that as well as I do, aside from the personal relationship—" Erickson went on, unhappily. He raised his right hand and with the tips of his first two fingers stroked the inner and outer ends of his right eyebrow, his eye looking through the angle; this habitual gesture concealed the scar for the moment, but made the observer

all the more aware of it when the hand had to be taken down.

"Thank you very much. I appreciate your kindness," said Frances, obviously wishing to talk about any other subject.

"He was not only a great scientist but as a friend—" pursued Erickson. Then he saw the pain in the pale oval before him and stopped, though it was clear he felt he ought to express more sympathy and regret. Lempereur came to the assistance of the two younger people.

"What is that you're sweeping up?" he asked curiously, nodding toward the black scraps ahead of Erickson's brush. The small pile appeared to be composed of burnt paper.

"Oh, Doctor Erickson; Mr. Lempereur," said Frances, with relief.

The men shook hands, and Hunter's assistant at once became collected and at ease as the conversation reached a practical footing.

"That's a minor mystery," he answered. "I found it this morning when I came in about a quarter of an hour ago. I'd almost swear it wasn't there when I left here yesterday noon. And I was the last out."

"It's burnt paper, of a good grade," observed the chemist with automatic accuracy. "Largely rag base, if not altogether rag. Was it as broken up as that when you first saw it?"

"I should say so."

"Then it must have been stamped on, or beaten, after it was completely oxidized. It would be difficult to reconstruct anything that had been written on that."

"It must of been burnt right there on the concrete this side of the what-you-may-call-it," said a voice, and there was the rotund form of Newton Bulger, his face alight with interest, and the newspaper reporter at his elbow. The stout man pointed to an area of smoked and greenish-yellow-stained cement squarely in front of the cyclotron.

Lempereur introduced his two unwelcome associates and begged liberty for them to look about. He did his best to make them appear to have a pure interest in the physical sciences. Erickson said he would be glad to show them around the laboratory.

"Of course," said the young physicist, "I suppose I might have missed that mess when I went away yesterday. I was naturally somewhat disturbed by the news of—when I heard on the telephone about Doctor Hunter. And I'm afraid we don't keep this place any neater than most laboratories." Erickson smiled apologetically and waved his hand in a semicircular gesture. There was, to be frank, a good deal of miscellaneous litter in evidence, but the larger part of the disorder was confined to a long bench that faced the entrance. On this was an omnium gatherum of tools, wires, soldering irons, radio tubes, papers, Bunsen burners, coils, bottles, and meters of one sort and another, all tossed together in what a sailor would term a hurrah's nest. Yet even here it was possible for the layman to assume that a physicist could find anything that he might wish to single out of the apparent confusion.

"You have a janitor? Some one who keeps the place swept?" asked Lempereur.

"We did have, up to the time that Doctor Hunter was taken too ill to get down here regularly—say a

month ago. But he was—ah—discharged. We've been attending to it ourselves, on a sort of informal five-day shift basis. I daresay it looks it."

"Well," said the chemist, "you probably wouldn't have noticed a small irregularity like that, under the circumstances of your departure yesterday. I imagine it is not of great importance, and no doubt will be explained when you see your associates. Are you expecting Mr. Richmond today?"

"I suppose you mean Mr. Winfield Richmond? Yes, he should be here; and Mr. Sidney Richmond, too," added Erickson, with a measure of coolness in his voice.

"I'd like to talk with Mr. Winfield Richmond. He's the older brother? Yes, with him," said Lempereur. "Now, Frances, let us go into your uncle's office and take the first steps in organizing the material he left on his work."

The girl nodded briefly, turned and went to the centermost of the five doors in the partition at the end of the building. The chemist followed her, and they disappeared.

Erickson resumed his march with the floorbrush, swept the black fragments to the outer edge of a pile of débris against the far wall, and then said to Bulger and Drake: "I'll show you around. I'm sorry we're not operating the cyclotron just now, but you can understand——"

During the tour of inspection that followed, the reporter and his stout companion made up in interest what they lacked in understanding of the higher physics. Bulger had a deeply rooted curiosity about what makes wheels go 'round, but unless they were

turned by something as obvious as a gear and chain he had a hard time comprehending the drive. Drake didn't care, except in general and in colorful terms, how an effect was achieved. He saw in the cyclotron a cage for "man-made lightning"; he regarded Erickson as one who bestrode thunderbolts and directed them on their way.

Beyond this general interest, both members of the Catalyst Club smelt a mystery. Drake had caught fire from Bulger's hunch. Neither could have given specific reasons for his feeling; it was rather that they had been dabbling in criminal matters for so many years that they were sensitized to the impact of suspicious trivialities.

Erickson was, of course, not aware of this hidden consideration of his two visitors, but he quickly realized that they were sensationalists at heart, and seeking drama. Therefore, he gave them a serious elementary lecture on his subject because he thought it would do them good. He was the more at ease with them since, in the spirit of any research worker, he recognized that they didn't know enough to steal the ideas that Hunter's laboratory had been developing.

"Here," he said, leading them to the corner furthest from the entrance, and indicating a big jacketed iron tank over which squirmed a snake's litter of wires and pipes and tubes. "Here is what we regard as our most important contribution to date. That is Doctor Hunter's invention which isolates H^3 , the triton, in quantity from the electrolysis of water. The triton, as you probably know, is a hydrogen atom heavier than the deuteron, which is the essential element in the 'heavy water' you have doubtless read about. Doctor

Hunter was the first to isolate the triton on a practical scale. He had completed a paper for the *Physical Review* on his methods some time before he died; we have great hopes for what the triton will do as a 'projectile' in the cyclotron."

In the face of these revelations the reporter and Bulger made an effort to look like intelligent human beings, with moderate success. Erickson swept them along, dismissing with a few words the pumping system in the opposite corner, and the battery of transformers with mercury rectifiers above them that supplied the various stages of electricity required by the apparatus. They came to a rectangular break in the floor within which they could see a flight of concrete steps leading down into a dark tunnel somewhat higher than a man and perhaps four feet wide.

"That's what we call the funk-hole," Erickson said, and a smile puckered the white scar into a furrow across his cheek. "Here, we might as well have more light." He walked to a switchboard by the entrance and threw the whole great building into brilliant illumination from dozens of hanging electric bulbs.

"I haven't heard of a funk-hole since the War," said Bulger, a shade more at home. "What's that for?"

"Well," said Erickson, returning, "we all go down in there when we're running the cyclotron at high potentials."

"Is it dangerous?" asked the reporter, looking at the squat black bulk, now centered in the limelight, with new respect.

"Not if you're careful," Erickson said, "but it's well to take no chances. At the higher potentials it gives off hard X-rays and other radiations, you know.

A man shouldn't stop too many of those, obviously. So we all run down in there and hide. The tunnel goes straight back about fifty feet, and makes a right-angle turn into a sort of dug-out. We have a duplicate instrument panel down there. Want to go down?"

There was a momentary silence in the building, except for the steady clucking of a mechanical vacuum pump near the atom smasher. Bulger and Drake looked at each other in order to agree on this minor decision when it was settled for them abruptly.

Behind the wooden partition of Hunter's office, which reached only some ten feet toward the iron roof above, Frances Hunter's voice rang out in an exclamation of horrified astonishment.

"What is it?" they heard Lempereur say sharply.

"Everything's gone!" answered the girl's voice.

"What do you mean?" snapped the chemist.

"Everything's gone. The safe has been cleaned out. All the papers I collected for my uncle and put away in here last week have been taken out."

Erickson gave a startled grunt. Drake and Bulger stood listening intently, their faces showing an unseemly delight. They could hear Lempereur slam across the office, evidently to verify with his own eyes the girl's statement.

"Everything was in that compartment," she said. "A year's work. My uncle's best year—and his last."

No one spoke then. Bulger whistled softly a few notes, identifiable as the opening of that unprintable ballad, "Sweet Betsy from Pike," and started for the door.

"Where are you going?" asked the reporter in a low voice.

"Going to get the stuff," Bulger told him. "You can see we'll have to case this joint, and right away, too."

Lempereur's voice, angry and still incredulous, barked:

"Who has access to this safe?"

"No one but my uncle and myself was supposed to know the combination," answered Frances, in hushed tones.

"The thing obviously hasn't been blown," said Lempereur. "Who might have known the combination besides you two?"

"Oh," Frances replied, "I suppose any one here in the laboratory might have seen the safe being opened. Of course, we didn't have the safe to protect the material from our own associates."

"Specifically, who do you mean by 'any one'?"

"Mr. Richmond; and Sidney, his brother; and Doctor Erickson."

"Specifically, what is missing?"

"I can't say, exactly. But apparently every bit of unpublished scientific material. All my uncle's notes."

"Any money?"

"There never was any money in the safe; just the notes, proofs of articles, most of them already printed, those few rare books. Nothing any one would want to steal."

"Somebody must have wanted to," grunted Lempereur, and suddenly appeared in the door of the office, his black hair bristling, his handsome ruddy face hard. "Bulger!" he called.

"Gone out," said Drake, and with Erickson he approached the chemist.

"There would seem to have been a disappearance of some papers here," said Lempereur. "It might be advisable to go over the surface of the safe fairly carefully. He has his fingerprint outfit?"

"He must have," said Drake, "from the looks of the back of his car he has *everything* in it. You'll see him staggering in, loaded for bear, in a minute, I guess."

Frances Hunter had slipped by Lempereur, and went up to Erickson. The helmet of hair, burning like metal in the light of the strong bulbs above, was the only decided color left about her face. Her lips were pale and her brown eyes open wide to the glare. A delicate blue shadow, which Drake observed with the interest of a connoisseur of beautiful young women, showed through the skin beneath the inner corner of the eyes. It made the reporter feel remarkably protective. "The poor little dame is tired as hell," he observed to himself. This little detail was one which neither Lempereur nor Bulger would be likely to notice; the former's attention being directed above, and the latter's below, the eyes.

Frances Hunter looked up at Erickson.

"It's all gone," she repeated. "All the description of the apparatus for the electrolysis of hydrogen, everything. . . ."

Erickson looked down at her, and stroked his brow seriously.

"I am sure I can reconstruct the paper on the method your uncle devised for isolating the triton. After all, we have the apparatus right there in the corner. You can help me; he dictated it all to you."

"Yes," said the girl.

"But what about the results he was getting with the cyclotron by using the triton at high voltage against—what was it, lithium fluoride?"

"I don't know," said Frances, helplessly. "Wasn't it bismuth?"

"That was earlier," Erickson said. "He abandoned that. He didn't tell me what he was doing alone in that last series."

"A week or ten days before he—" began the girl. "A week or ten days ago he grew quite excited one morning. He gave me a hint that he had reached some tremendous conclusion. I think it was the last morning he came down here. He wrote in longhand for an hour, as hard as he could write. There must have been twenty or twenty-five pages, and you know he wrote rather small. He put them in the safe and told me to type the material as soon as I had a chance, making three carbons. But, well—he was worn out when he got through, and we went home, and I came down here only once again, before—before today. Those sheets were lying on the top of the pile when I went into the safe last week. I saw them. I put some of the notes he made at home on top of them. Everything's gone. . . ."

Erickson looked uneasily at the young woman.

"It's awfully queer," he said. "Who would want to take such papers? You're sure you can't be mistaken? Where could they have gone?"

"How about here?" asked a voice, and they turned to see Persen Drake kneeling on the floor at one side of the room. With the point of a thick newspaper pencil he was gingerly poking through the charred

fragments of paper which Erickson had earlier swept across the concrete. A moment later he carefully lifted the largest scrap of black ash which remained intact and held it up to the light. It was perhaps three inches square.

"I can make out what's left of penwork on this," he announced.

"Be careful of that!" commanded the chemist, reappearing in the doorway. "What is it?"

"Oh," cried Frances, hurrying over toward the reporter. "You don't suppose the person who took my uncle's notes out of the safe could have *burned* them? What would be the point of that? Only a vandal would do that!"

"Don't worry," said Lempereur, with grim authority. "Any one who knew enough to steal those papers out of the safe would know their value; and any one who knew their value wouldn't destroy them. We'll find those aren't your uncle's notes."

"But it looks like his writing," Frances declared, peering, as Drake held the black scrap in a favorable light for her. "If it isn't his material, what is it?"

As she asked this question the entrance door opened and through it came two young men.

CATALYSTS PROBE CRIME!

Winfield Richmond, third, the backer of Hunter's experiments with the cyclotron, was a man of about Drake's age, but plumper than the reporter, and far less sharpened and hardened by life. With few deep interests, and no expensive appetites, he had fought for years to spend his large inherited income, but the odds were too great. He was not fast or gregarious; he disliked horses; he was cold to yachting. Do what he might, he was not able to think up ways to get rid of all his current moneys. Since he followed the best investment counsel and was remarkably lucky, the stuff kept piling up behind him, in the dark vaults, in the crinkling certificates, ploughed back into enterprises all over the western hemisphere. Most of these new ventures, perversely enough, kept on paying and paying through good times and bad, and thus each year saw his singular problem grow greater. The expenditures for the laboratory had been a godsend, actually giving him a deficit for one income tax period. It had proved only a temporary relief, and the expression of discouragement on his face was becoming a permanent fixture. Only temporary, too, was the enthusiasm Hunter had awakened in him for soldiering in the outposts of science. The mental work had been too concentrated and too long-drawn-out.

He still came to his office in the laboratory every day, and felt an indefinite satisfaction that he was a party to great endeavors, but he passed most of his time reading light fiction and had only a hazy idea of what Hunter and Erickson really were about.

His younger brother, Sidney, at twenty-three, was in strong contrast to Winfield. Where the latter's face was fresh-colored, plump and pleasant in a good-natured and slightly worried way, Sidney's was dark and thin and handsome. Winfield's air of discouragement became in the younger brother an effect of romantic rebellion. This expression, coupled with naturally curly black hair, and a white collar carefully thrown open, gave him almost as much resemblance to the late Lord Byron, as he fancied himself to have. Where Winfield was well-padded, slow-moving, vague; Sidney was light-boned, nervous and purposeful. It was supposed that the elder had dragged his brother into the laboratory in an effort to introduce him to useful work; but actually Sidney had come in on his own motion some eighteen months before, because he had expected to find high adventure in the assault on the secrets of the atom. This he had not found, but instead a distaste for physics, and he had proved something more than a nuisance to the two genuine scientists on the job. He had, however, discovered a substitute interest, which brought him daily to the laboratory and kept him popping in and out of Hunter's office, where Frances Hunter also had her desk. Hunter had been too preoccupied, or good-tempered, or politic, to request that he be sent off to play somewhere else; and if his bronze-haired niece minded the young man who perched so much beside

her typewriter, she had not entered any official complaint.

As the two men advanced to where the earlier arrivals were standing, Winfield's face expressed perturbation and Sidney's indicated alert expectation. Evidently they had met Bulger outside, and been informed of what had happened. A few seconds after they entered, Bulger came in with two large suitcases, placed them on the concrete, and looked cheerfully at Lempereur for orders. He was perfectly capable of conducting an investigation without any help whatsoever, but when Lempereur was around, men automatically turned to him for direction.

After Frances Hunter had attended to introductions and the obvious questions of the newcomers had been answered, the big chemist took hold of the situation. He scanned the group with that characteristic seriousness of his which always had a small flavor of the grim, and said:

"I think we'd better first define our problem. Miss Hunter tells me that certain papers, which could not be replaced if they were lost or destroyed, have disappeared from the safe in this office. Frances, you are absolutely sure that they were there last week, when you went into the safe for the last time?"

"Yes," said the girl. "Absolutely."

"Your uncle had no opportunity to come and get them out?"

"He was at home and in bed all that last week."

"And as far as you know, you and your uncle were the only two people who knew the combination to the safe?"

"As far as I know."

"Now, gentlemen," said the chemist, turning toward the two brothers and Erickson, "does any one of you happen to know that combination? Mr. Richmond? Mr. Richmond? Doctor Erickson?"

All three men replied in the negative.

"Very well," said Lempereur, watching them thoughtfully. "So much for that for the time being. I shall digress a moment in the direction of Doctor Erickson's puzzle this morning. You left here yesterday at what time, Doctor Erickson?"

"About a half-hour after noon, Mr. Lempereur."

"And you were the last to go?"

"Yes. In fact, I was the only person in the laboratory all morning."

"And you did not observe that pile of burnt paper before you left?"

"I did not; and the more I think of it, the more certain I am that it was not on the floor when I left, that it couldn't have been. I made a short run with cyclotron—some private experiments I am making—and I should have been stumbling over that heap all the time if it had been there."

"Yet it was there when you came in this morning, and you were the first to arrive. At what time was that?"

"About quarter to ten, I guess."

"Who has keys to this building?"

"We all have," said the elder Richmond. "And to the padlock on the gate in the wire fence, too."

"You know of no one else who has keys?"

"The janitor had, but he turned them in to me when he left. I have them here," and Richmond exhibited a double set of reasonably complicated keys.

"I suppose neither you nor your brother was in this building between yesterday noon and this morning?"

"No," said Winfield Richmond.

"Nor I," said Sidney.

"Very well," the chemist went on, "we now have foundation for a belief that some unauthorized person entered this place between those hours, and conducted some unexplained operations involving the burning of papers on the concrete over there. We have also reason to believe that some one has entered, by unexplained means and within the last week, the safe in Doctor Hunter's office and removed certain material. That is as far as we can safely go now, but it justifies a careful investigation. Bulger!"

The stout sales manager for the Pittsburgh Equipment Company had been sauntering around the walls of the building with every appearance of casualness. How deceptive this appearance was might have been suggested by the fact that his aimless-looking tour had all but convinced him that no one had forced an entry into the laboratory. At Lempereur's call he said "Hullo," and came strolling back to the group.

"Bulger," the chemist said, "the first thing I want you to do is to take the temperature of the concrete at the point where those papers were burned. I can smell nothing, but if the burning took place early this morning, it may show up in a slightly higher reading over that part of the floor than over the rest. Strike as nearly as you can an average temperature for the floor as a whole. That should be done at once. Then save as much of those charred papers as you can; I want to examine them later. Now, which one of those suitcases has your fingerprint outfit in it?"

"The one marked '2'," Bulger grinned. Within the past year Lempereur had succeeded in getting his associate to carry at all times in the back of his car a complete portable police laboratory outfit, to replace an earlier somewhat hit-or-miss equipment. This change had been precipitated by Bulger's bringing to the chemist a specimen of water for analysis—in a milk bottle. The salesman objected at first to the amount of space the three suitcases took up in the baggage compartment of his sedan but gradually accustomed himself to this inconvenience and to the use of the various items in the kit. After all, Lempereur argued, he was the logical one to carry the stuff, since he and Drake did most of the Club's field work, and Drake had no car. Bulger was now even coming to take a certain pride in the completeness of his equipment.*

*The technically minded may be interested in the details of Newton Bulger's outfit. It is contained in three suitcases, as follows:

No. 1. *Photographic*: A 5x7 Graflex camera, with one fast and one wide-angle lens; space for a Leica camera (generally in Bulger's pocket); extra film packs and rolls; Weston all-purpose photo-electric cell exposure meter; diagram for depth of focus; yellow light filter and infra-red filter; photo-flash and photo-flood bulbs; "trouble light" with 150-foot extension cord, 100-watt bulb, and resistance coil. Space for six-battery flashlight (generally in car). Tripod with reversible head (strapped, folded in case, to outside of suitcase).

No. 2. *Technical*: Sketchboard tapped to take the screw in the above tripod head; tape-measure, flexible steel rule; lead pencils, chalk and crayons; graph paper; small bubble level. White, black, and aluminum fingerprint powder, silver nitrate and sprayer; fingerprint ink, blanks; fingerprint roller with handle; footprint outfit. Test-tubes in wooden rack and slides for blood samples, etc., in wooden rack; 6-inch magnifying glass, small mirror, low-power microscope, thermometers and crucible. Tools: 8-inch screw-driver, hacksaw, compass saw, claw hammer, ½-inch wood chisel, 18-inch wrecking bar; 12-inch shears; pocket pliers (generally

"I shall request all of you," said the chemist, bluntly, "to give me records of your fingerprints, so that we can at once tell if any outsider has been handling things in this laboratory or offices. Suppose we go where we can have a table; perhaps Miss Hunter will let us use her desk, and we can all stay away from the end of the office in which the safe is located."

"Look here," Winfield Richmond said. "I don't quite understand what's going on. If there's been a theft, hadn't we better call the police? I'm not implying that you don't seem to know what you're doing, but it's all sort of sudden, and sort of irregular, isn't it?"

"You are at liberty to call the regular authorities if you wish," said Lempereur, "but I might point out to you that you are standing some distance south of the city limits of San Francisco, in a township of San Mateo County whose name I couldn't tell you. If you call what you think of as 'the police,' it might turn out to be some bewildered country officer, with neither the intelligence nor the equipment to handle this case. I assume you wish to find out who's been rifling your laboratory, and do so as quickly as possible?"

"Oh, of course," the elder Richmond assured him.

"Even if you didn't, I should insist that it be done," the chemist said flatly. "As scientific executor for

missing); mill file and saw file; knives, tweezers, and forceps. Rubber hose, rubber "policemen," and eyedroppers; rubber gloves; heavy twine; tape. Green soap; cheesecloth; filter paper, plastelina; saline solution, leucomalachite reagent, rhodokrit; lyco-podium; quartz powder with duster, and fixative with sprayer.

No. 8. *Miscellaneous* (known as the "Overflow Bag"). Moulage outfit and a variety of empty containers for the transportation of evidence from the scene to Lempereur's criminological laboratory in the city.

Doctor Hunter, I must know what has happened to his unpublished material. And as the president of the Catalyst Club, I happen also to be in a fortunate position to undertake the task myself. You may not have heard of our organization; you can take my word that the club is, to say the least, as able as the police in dealing with a problem of detection, and we have had ample experience."

"Oh, quite," said Richmond, looking both startled and impressed.

"Very well," said Lempereur, with an air of finality, as he turned into the door of Hunter's office. The three men and the girl followed him, more or less dubiously. Bulger brought in the ink pad, the roller, half a dozen regular fingerprint forms, four small bottles of different colored powders, and a dusting device. This collection he set down on Frances Hunter's desk near the door, and then retired to make his separate investigations in the outer laboratory. Drake, who had been quietly taking down on a folded sheet of copy paper the conversation so far, slipped into the room and took up a position where he could observe, and make note of, whatever happened.

The office of the late John Gregory Hunter had been furnished for work, not for luxury.* The wall facing the door was one great window which even on an overcast day filled the place with light. Hunter's desk, bare and clean, faced the door; his swivel chair backed up against the window behind it. To the right of this chair, as one faced it, was a revolving bookcase, jammed with technical volumes and back numbers of American and foreign periodicals dealing with

*Refer to diagram, page 62.

physics; on top was a brown glass pitcher and tumbler, within easy reach of a person at the desk. On the left was the safe, a shallow steel box, not over five feet high. As the party entered, the door of the safe was swung wide open, as Frances had left it.

Lempereur stepped to the girl's desk in the right-hand corner near the entrance, and, with a slight bow, invited her to be first. She went over smiling, and continued to smile faintly as the chemist inked her fingers with the roller, and rolled the tips of each one upon the proper section of the form. When he had finished, she looked at the ink stains and wrinkled her nose at them. The newspaper man, watching her closely, found this little grimace of distaste attractive, and noticed also that she had beautifully shaped hands. She went into the closet in the left corner, brought out a sheaf of paper towels, and wiped off the ink as best she could.

Winfield Richmond and his brother followed her without objection, but when Erickson's turn came the young physicist said:

"I protest against being fingerprinted as a matter of principle. I associate it with criminal records."

"A great many reputable people are permitting themselves to be fingerprinted," said Lempereur, smoothly. "An effort is being made to teach the public that it is also the best means of civil identification, and to free it from its exclusive criminal association. You weren't in the army, were you?"

"No, I was fourteen when we entered the war," Erickson said, walking up and holding out his right hand. "I am willing to have you take the prints, but I still feel it an indignity."

"Oh, come on, now, Hugo," put in Sidney Richmond, "don't be pompous."

The physicist made no answer, and Lempereur carried out the same process with him that he had with the three others. He then spread the four sheets out on the desk and compared them closely for a moment.

"Very nice," he murmured, "very nice. Good, strong patterns, full of individuality. Suppose we see now if we can find the marks of any stranger in here."

While the others gradually found objects to sit on about the near end of the office, the big chemist strode to the other end and began a minute examination of the safe. He swung the heavy door nearly shut, and blew with wide-open mouth on the knob and dial, which were of bright steel.

"A few, remarkably few," he said, and choosing the bottle containing the black powder, he lightly dusted some over the metal.

"As scientists," he went on, without taking his eyes from the safe, "you will be interested to know the chemical composition of a fingerprint such as the ones I see here. I have never happened to make an analysis myself, but Soderman* gives 98½ to 99½ per cent water and the balance solids. These solids are about a third inorganic—salt usually—and two-thirds organic—urea, volatile fatty acids——"

"This safe," he interrupted himself suddenly, "has been very carefully wiped off. There is nothing on the whole face of the door except a few of Miss Hunter's fingerprints on the knob, presumably made this

**Modern Criminal Investigation*, by Harry Soderman and John J. O'Connell. (Funk and Wagnalls, 1935), p. 102.

morning. There should be hundreds of old prints, all over it. Some one has certainly tampered with it recently, and then covered his tracks with the greatest care. This case is growing more interesting every minute. It will take much longer to investigate than I thought at first. With your permission, Mr. Richmond and Doctor Erickson, I and my associates will make a thorough inspection of the offices and laboratory. I do not wish to keep you from whatever you had planned to do this morning, so I hope you will go ahead with any operation you had on the schedule."

"Of course," said Winfield Richmond, "anything you like. You won't disturb us."

"You have no objection to my running the cyclotron?" asked Erickson. "I am in the middle of an experiment which I don't want to postpone."

"Certainly not," said Lempereur.

Led by Erickson, the only one who showed an eagerness to get to work, the three men filed out. As soon as the door had shut behind them, Drake walked over to where Frances Hunter was sitting idly beside her desk.

"Say," he said in a low voice, "is there a telephone in this building? I haven't seen one around. I've got to make a call."

Lempereur snapped up from his consideration of the safe.

"None of that!" he told the reporter sharply. "You wait until things develop a little further before you notify your paper."

"Aw, listen, T. M.," protested Drake. "This business is going to be big. I feel it in my bones. Let me

at least give them a chance at the shop to start combing the morgue for clips. . . ."

"No! I insist that you wait. Your connection with *The Times* has created complications enough already. Go out and help Bulger collect what he can out there. Tell him I'll be ready for a preliminary report, and to have him take photographs in here, in about an hour. I'll see you then, and mind now, *don't call The Times!*"

"Oh, O. K., then, T. M.," the reporter agreed, without enthusiasm. "Thank God our first deadline isn't for seven hours, anyway. But come outside a minute, will you. I want to speak to you."

"I'll go out," suggested Frances, and over the conventional protests of Drake, she left the two men alone.

"What is it?" asked Lempereur, with some impatience.

"Listen, T. M.,—when's the Hunter funeral?"

"Tomorrow afternoon. Why?"

"You're going to have a full autopsy first, aren't you?"

"I hadn't thought of it," said the chemist stiffly.

"You ought to. No kidding."

"Has Bulger persuaded you that his wild imaginings are valid? You know his inclination to drum up business for the club; the more sensational, the better."

"For once I think he's right. And this monkey-business with Hunter's safe and his papers is an argument in Newt's favor. If there's been a reason for robbery, there might be a reason for murder, too. Am I right?"

The older man looked Drake in the face, and his gray-green eyes were focussed beyond the other.

"I will grant you that anæmia is more often a symptom than a disease . . ." he said.

"Go on, T. M.," urged the reporter, "ask the doctor who issued the death certificate to make a post mortem, unofficially."

Lempereur thrust his hands into his pockets and braced his square shoulders.

"I'll do this much," he said. "I'll ask Miss Hunter for permission, and then telephone the doctor and have a talk with him. If he thinks it worth while, I'll suggest that he do it. I'll telephone him at noon; he won't be home before then. In the meantime, we're investigating a probable theft, and I'd like to be left alone in here. You go out and help Bulger; he ought to know by now things to collect for me. I'll see you at noon."

The reporter went out, and for an hour and a half the big chemist carried out an investigation of the office which was striking in its plodding attention to minutiae. He worked a good deal with the fingerprint powders—a routine which he generally delivered to Bulger, or ignored—and first developed one pretty set of the four fingers of Erickson's right hand upon the black metal of the left side of the safe. As these, however, were obviously made by a man steadying himself as he leaned his back against the strong box, Lempereur placed little importance on them. He went on to find a scattering of Winfield Richmond's prints on the surface of Hunter's desk, and a thick group of those of Sidney Richmond, with palm prints, on the top of the desk used by Frances Hunter. Her prints

appeared all over the office, together with a series which Lempereur could not identify, but assumed to be those of the dead scientist.

The unidentified prints occurred with special frequency on the pitcher and tumbler standing on the revolving bookcase. Lempereur gave these two objects a lengthy consideration. They were of a peculiar streaky brown glass, which suggested to him something he could not remember exactly, and about three inches of water remained in the bottom of the larger receptacle. The tumbler was built to fit upside down in the mouth of the pitcher and act as a cover.* After he had regarded these objects for several minutes, the chemist went to the door of the office and looked out.

The laboratory had started into life. Lamps glared everywhere. A high-pitched humming from some electric motor or generator filled the building and echoed from the iron roof, and vacuum pumps were clucking hurriedly by the wall and under the cyclotron. From the "atom smasher" itself issued a buzzing and a thick splashing, as oil cooling the upper winding cascaded down to the lower. An intermittent crackle of sparks came from the power intake behind the apparatus, and a red sign warned off people with watches from the invisible tug of the great magnets. Erickson, his scarred face peaceful and absorbed, was standing by the cage in which were located the controlling dials and meters, the oscillograph, and the Geiger counters and amplifiers for detecting the products of the destruction going on inside the vacuum chamber. Frances Hunter was at his side, rather aimlessly

*See "A," Plate III, facing page 92.

checking on his observations. Newton Bulger was off in one corner of the building taking photographs. No one else was in sight.

The chemist called the girl. She looked up, and came over to him.

"I find," said Lempereur, "a number of fingerprints that belong to none of you four people. The clearest of them are on that glass pitcher and tumbler. Do you know whose they might be?"

"My uncle's?" asked the young woman.

"I had thought of that, naturally. Could they belong to any one else?"

Frances Hunter furrowed her white brow.

"We used to have a janitor here. Do fingerprints last a month?"

"Many months, even years," Lempereur assured her.

"He used to fill my uncle's pitcher in the mornings from the water cooler outside the door. I filled it the rest of the time. My uncle was a great believer in water, and generally emptied that pitcher twice a day when he was working here. I suppose some of the janitor's prints might be left on it, from the last time he filled it. Is that possible?"

"Very possible, if it hasn't been wiped or washed recently. May I take it back to my laboratory, for further analysis?"

"Of course, but, Mr. Lempereur, you don't think *he* could have been here last night——"

"No, but we have to consider the possibility of anything happening."

"He was such an inoffensive little man—with a walrus mustache, and his name was Ethelred! I'm

sure he hadn't wit enough to understand the value of my uncle's material, much less to take it out of the safe."

The chemist smiled down at her.

"I understand that the mysterious janitor or butler has been worn threadbare in detective fiction, although I never read such trash. But this is an actual theft; we can't afford to pass over a factor because it is trite." Lempereur signalled to Bulger, and the stout man walked over from his tripod.

"Will you pack up that water pitcher and tumbler so that it can travel to my laboratory without spoiling the traces on it? And see if you can find a glass object or two which has certainly been handled by the janitor who was discharged from here last month."

"What's the idea?" asked Bulger. "This is no janitor's job, T. M."

"Possibly; but we will have to follow him up, just the same."

"O. K.," said Bulger. "Miss Hunter, do you know something that fills the bill?"

"No, offhand," the girl said. "He was fired in—in rather a hurry. There was some confusion. I'll ask Doctor Erickson."

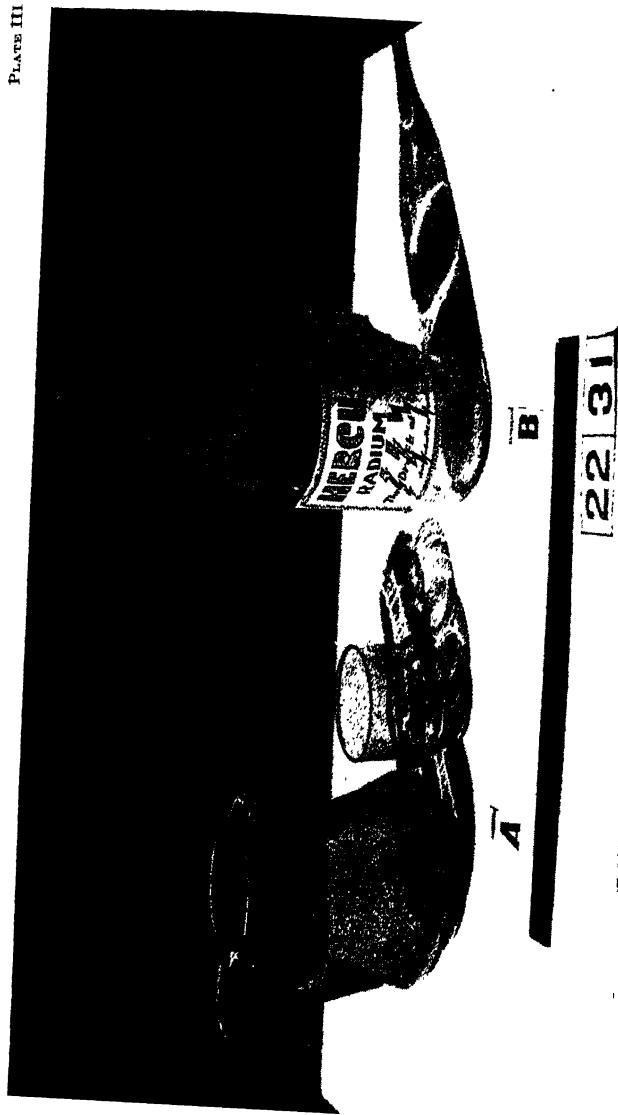
She walked back to the cage, and Lempereur could see the physicist frown at mention of the janitor's name. He pulled two switches; glanced at the dials, and came over to where the chemist and his companion were standing.

"I suppose there's no harm in telling you, Mr. Lempereur," Erickson said with some slight hesitation. "We haven't spread the detailed reason why we got

rid of the man, because we didn't want the story to get around and throw even the shadow of a doubt on some of our results. It happened this way. About a month ago I asked him to find me an empty bottle I could use for distilled water. He went off behind the laboratory and came back in a minute with a bottle, all right. He set it down on the bench over there, and when I looked at it, I saw that the label stated it had contained 'radium water.' I asked him at once where he got it, and he said it was a 'tonic' he was in the habit of taking. Doctor Hunter was in the building at the time, so of course I called him immediately. He told the man that he was crazy to drink anything like that, and that he should stop it. The janitor said he wouldn't; it 'made him feel better.' Then Doctor Hunter said he must stop, or lose his job. You can easily see this is the worst place in the world to have a radio-active janitor around; emanations from him would be getting mixed up with those from the cyclotron and throwing out all our calculations. As a matter of fact, he wasn't radio-active at that time; naturally, we checked on him with an electroscope, and on the bottle. But, of course, we couldn't take any chances, so Doctor Hunter asked Mr. Richmond to send him off that very day. And that's what happened. As far as I know, no one has touched that container since the janitor set it down on the bench, so it should give you good fingerprints."

Erickson pointed to an empty quart bottle on the littered work bench, and the others could read on the label: "Hercu-vita Radium Water: the Draft of the Immort.* . . ."

*See "B," Plate III, facing this page.



OBJECTS TAKEN FROM LABORATORY OF THE LATE DR. JOHN GREGORY HUNTER

"I thought," said Bulger, cautiously taking the bottle into custody, "that radium water was the stuff people's jaws dropped off from."

"I observed no symptoms in the janitor," Erickson answered, "although we later found a barrel of those empty containers behind the laboratory. It made us nervous to consider how many errors he might have introduced into our calculations. We were glad to get rid of him."

"I'd like one more corroborative object on which he might have left prints," said Lempereur, hewing to the line.

"Of glass? That we know he handled?" Erickson reflected, and stroked his eyebrow. Frances called Winfield Richmond and his brother into consultation, and the latter shortly produced the only other important piece of evidence found at the laboratory that day.

"The morning the janitor was fired," said Sidney, with his eyes resting, as they usually did, on the girl, "I had him dust my office. He took down the framed copy of my poem, 'The Heretic,' and pawed it all over. I'll let you have it." The young man dodged back into his room and came out with a picture frame held gingerly by the corners. This he surrendered to Bulger.

The surrounding wood was black and perhaps one foot by eighteen inches. Under the glass was a page cut from a large-sized magazine, topped by the announcement: "San Franciscan Wins City Club Poetry Prize; First Award to Sidney Richmond." After a brief biographical sketch, the successful verse was printed in full, running as follows:

THE HERETIC

by SIDNEY I. RICHMOND

Beauty is not the end of the earth's striving;
It is a negligible residue of the importancies;
It is the little mitigation for weak men;
The iridescent scum upon the truth of bitterness.
Beauty has little import:
The element of consequence is, has been, will be
Ugly strength,
That strength needed to crush downward
To kill men,
To break faiths,
To lay waste land
In relentless rooting after iron;
To spout up the cancerous growths of cities,
To scream blood in black ink
Upon the pulped trunks of forests,
To shatter the silences,
To fire lust.
Beauty serves none of these ends.
Beauty will not gird a river with dams
Or lance the stacked strata swollen with oil,
That man may go yet faster
And faster and faster
In his triumphant pursuit . . . of death.
Beauty is not the end of the earth's striving.
Beauty is the *caput mortuum* of her so-magnificent
progress.

THUGS SNATCH SAVANT!

With John Gregory Hunter's notes missing, his last discovery would go down into the earth locked in the mysterious colloids of his dead brain. A living man might open the skull and look upon this gray and already disintegrating mass, but it was inscrutable. The labyrinth of nerve paths, the central switchboard of a great intelligence, which had so sparked and glowed with intricate thought, now lay as meaningless as a bowl of gelatine, asking nothing, answering nothing. Lempereur's brain, still quick and no mean instrument itself, contemplated this dumb thing that had been uncovered by the doctor, and recoiled from it as unsatisfied as before.

Hunter's body, too, hid a secret, and surrendered it to the importunate knife almost as reluctantly as the brain. It answered no questions; but it did propound a riddle. The existence of this riddle helped to protect the chemist from the human implications of what lay before his eyes; this clay was no longer his friend; it was a problem, he told himself, it was a problem, touching only his mind. . . . With Lempereur at his elbow, the little doctor subjected the cadavre to a cold and thorough pillage, making from time to time remarks as brisk as his incisions.

"You can see quite clearly the point of internal

bleeding which was the immediate cause of death. . . . We could have done very little good with a transfusion. . . . You'll observe there is some necrosis of the small intestine. Queer." A long period of wordless operation, then: "There is extraordinary degeneration of the lymph nodes—see there? We will now look at the bone marrow. . . . Yes, the same story. Very interesting. . . ."

"What are your conclusions?" asked Lempereur at last, as the surgeon stepped back and surveyed his work from a little distance, in the manner of an artist.

"I am not prepared to change my diagnosis until you have made a full toxicological examination," shrugged the other. "You had better take this, and this . . . and these. And this."

"And—" said the chemist, pointing.

"Of course," the doctor agreed, politely, and deftly added the indicated item to the collection.

"We will let the public record read aplastic anæmia," said Lempereur, "until I have attempted to give a deeper explanation. I'd prefer to keep the officials out of the matter for a while."

"I was surprised to notice at breakfast this morning," the doctor observed with a certain delicacy, "that *The San Francisco Times* seems already to have some doubt that Hunter died of natural causes. The reporters are apparently trying to hook it up with a robbery which *The Times* says occurred at Hunter's laboratory. We may have the bureaucrats on the back of our necks before we expect them."

"I know," growled Lempereur. "I have an associate—a very young man—who is always about three jumps ahead of himself. He happens to be on *The*

Times, and he plagued me until I told him finally yesterday afternoon that he might report the theft. As usual, he has gone farther than I wished him to. He's a damned nuisance, but, unfortunately, he's very often invaluable, as well. In this case I am hoping to avoid trouble by falling between authorities; the theft was committed in San Mateo County, and Hunter died in 'the city and county of San Francisco.' "

"I hope so," the doctor said. "Keep me informed on your findings, T. M. And don't overlook that duodenum. It has an unusually interesting appearance. I've never seen anything *quite* like it."

It was shortly after 11:30 A.M., nearly forty-eight hours after Hunter had died, when the little surgeon finished his work, clapped his hat on his bald head, and bustled away. Lempereur called his laboratories (which he had not visited since the previous morning), got his secretary on the wire, and instructed her to send a responsible person for the material that the doctor had extracted for him. He then said that he would not return to the laboratories before late afternoon, unless something pressing had arisen in the way of business.

"Nothing in a business way," said the woman at the other instrument. "But a number of telephone calls have come in."

"From whom?" asked the chemist.

"Mostly from that Mr. Brander, of *The Star*."

"I suppose he was worrying over the story about Doctor Hunter in *The Times*!" said Lempereur, mentally cursing Drake for this extra complication.

"He didn't say what he wanted. He insisted on speaking to you. I told him you couldn't be reached."

"Good! What else?"

"The Aquarium called, and wanted to find out if you knew where Mr. Brill-Jones was."

"How should *I* know?" the chemist demanded, irritable. "I rarely see him more than once a week. They see him every day."

"Yes. I told them you didn't know."

"Is that all? I have barely time to get home for lunch and change my clothes for Doctor Hunter's funeral this afternoon. . . ."

"Mr. Drake called a few minutes ago."

"Oh, to the devil with *him*," snapped Lempereur, and hung up.

The shell of John Gregory Hunter was buried on the slope of Lone Mountain, "where so much of San Francisco's history seems crowded into a final chapter," and under a driving rain. The storm that had been preparing for two days had broken at last; the damp expiring gasp of the rainy season blew across the city, turning its gold and laughter and glory to a waste of sodden gray stone and glistening black pavement. The wrack off the sea smoked through the woods above the cemetery; the falling drops pelted the turf and splashed from the memorials about the new hole in the ground, and drummed on the canvas of the tent which had been erected to shelter the service.

Only a handful of people stood watching as the bronze box was lowered out of sight, and these were huddled together under the corners of the tent-fly in two knots—one made up of the Richmond brothers and Erickson, all looking wet and dejected; the other containing Lempereur, and his very small and quiet

gray wife, together with Frances Hunter, and a clergyman. No one but this last individual had much to say, and he spoke the stately hopeful phrases too hurriedly, as though his ankles were getting damper all the time and he wanted to have done with the business. The impression of haste that he gave was heightened by the arrival, before the proceedings were over, of a young man in a dripping trench coat and felt hat who hovered uneasily and with a worried countenance on the fringes of the ceremony. The big chemist recognized Drake, and shot him so forbidding a frown that the reporter kept his distance. It was, however, obvious that the younger man was bursting to interrupt, and his dark face, under the soaked hat brim, lacked all trace of its customary amusement. As soon as the little groups began to raise umbrellas and turn, with an air of accomplishment and relief, toward the automobiles, Drake strode in and seized Lempereur by the elbow.

"Sorry to horn in at a time like this," he said to Mrs. Lempereur and the girl; and then, to the chemist, "I've got to speak to you a minute, T. M."

"Come now, Drake," said Lempereur, who was used to the alarums and excursions of his associate, and who was today, in addition, more than a little irritated by him, "I'll be in my office in about an hour. See me there."

"No," the reporter said, flatly. "It must be right away. It's about Cy."

"Brill-Jones? What about him?"

"Haven't you seen the afternoon papers?"

"Of course not."

"Don't you know *anything* of what's happened?"

"No. Stop making a mystery, Drake!"

The reporter groaned, and tugged at the chemist's elbow. Lempereur shook his arm free, looked carefully at the other man, and then excused himself to his wife and Frances Hunter. Sidney Richmond came up with an extra umbrella and offered them escort to the cars. Led by Drake, Lempereur walked down a path among the gravestones standing scattered to the merciless whipping of the rain.

At sufficient distance, the reporter unbuttoned his trench coat, and from under one armpit brought forth a copy of the noon edition of *The San Francisco Star*. The chemist shook it open under his umbrella and scanned the tinted front page. The usual explosion of headlines, in two colors, met his eye, the picture of the girl involved in a "love slaying," showing legs; a bold-faced announcement that "Collighan Brothers Tell Life Story:—Victims of Own Generous Impulses—Now Exclusively in Star!" and one "streamer" across the top of the page saying: "FEAR AQUARIUM CURATOR MAY BE RIDE VICTIM!" Lempereur's vision snapped to the column that seemed related to the headline, struck turgid and sensational journalese, and shifted to Drake's face. The chemist now noticed how sallow his young friend's complexion had become, and the anxious look in his eyes.

"What are the facts!" he demanded.

"I only know what's in *The Star*," said the reporter, hurriedly, "and what little we've been able to dig up since. *The Star* says they sent a leg man to interview Cy this morning. He arrived at Cy's house about eight. As he was about to go up to the front door, he saw Cy come out of the house with two men, and hurry

into a waiting car. As they got into the car, he saw that one of the men with Cy was poking a gun into Cy's back. He didn't recognize the men. He tailed the car across to the East Bay and got a chance to telephone *The Star* while the other car was getting gas in Berkeley. He gave a Kansas license number for the other car, and *The Star* warns all police to watch out along the roads to the east; believe they're heading for Nevada."

"Why?"

"The license, I suppose; don't ask me. You know *The Star*, and I'd take the whole business with a truckload of salt—because who would pick on Cy, of all people—but, worse luck, we have some confirmation. I telephoned Cy's landlady, and she reports that just after breakfast a man came to the door and asked to speak with Doctor Brill-Jones. Cy went into the vestibule and she heard the stranger say to him: 'Aren't you investigating the death of Doctor J. G. Hunter?' And Cy said: 'Well, not exactly.' And the guy said, 'O. K., you better come with me—Mr. Lempereur and Mr. Drake told me to bring you right away to where they are.' The woman knows our names well by now, and couldn't have been mistaken. And Cy slapped on his hat and went boiling out into the stranger's car! Can you picture any one except Cy falling for that old gag? She thought there were three men in the car with him when it drove away. She didn't notice the license plates. That's the last trace we can pick up on him."

"But why should any one want to carry off Brill-Jones?" asked the chemist. He knew, and so did Drake, a half-dozen possible reasons for this, all con-

nected with the activities of the Catalyst Club, but neither man was willing to bring one of them out into the light of speculation.

"*The Star* suggests quite openly that it has something to do with the Hunter case," Drake offered, bleakly. "But your friend Brander has apparently grown more cautious about the club. He doesn't mention it by name. See there? The story says: 'It is known that Doctor Brill-Jones and certain of his associates were probing the death of the famous physicist.'"

"Drake, doesn't it strike you as strange that the damned *Star* seems to know so much more about this business than anybody else?"

"You're telling *me*?" grunted *The Times* man, in double-rooted gloominess, shaking a cascade of water from his hat brim with an impatient swing of his head.

Lempereur, from the partial shelter of his umbrella, stared out unseeing over the drenched bottoms of the city that lay beneath Lone Mountain.

"Brander was trying to reach me by telephone all morning," he murmured. "I wonder if he knew about this business then. . . . We'd better get back to my office as quickly as possible," Lempereur concluded, decisively, and started at a sharp rate for the automobiles.

"You might see if you can get anything out of Brander," suggested Drake. "Both my Old Man and I have been trying to connect with him ever since this edition hit the streets, but he was 'too busy' to talk with *The Times*. He might talk to you. Anyway, for God's sake, let's get started doing *something*! It

makes me sick to think of what might happen to Cy if this business is as bad as it looks. They *just would* have to choose him, damn it. Any of the rest of us could look out for himself—but he's a kid! It's as bad as snatching a baby. . . ."

Lempereur nodded in grim agreement, and quickened his pace. Arrived at where the others were climbing into the automobiles, he wasted little time in a graceful readjustment of seating arrangements. He left the Richmonds to take care of his wife and Frances Hunter, marched to his own car, ordered Drake into it, slid in under the wheel, and headed for his laboratories.

The two men rode for the most part in a dismal silence, each occupied with his own worries, until they reached the big concrete building and hurried up to Lempereur's office. The chemist tossed his coat, with a sodden slap, on the leather couch, dropped into his chair, and pulled the second telephone out of the desk drawer. The reporter walked over to the big window behind the desk and watched, without interest, the groping traffic on Folsom Street.

"Give me *The San Francisco Star*," said the chemist. A pause in which Drake's coat dripped persistently on the floor, and a distant foghorn spoke on the Bay.

"Hello? This is Mr. T. M. Lempereur speaking. I want your managing editor, Mr. Brander." The whistle called mournfully again, and again.

"Oh," said the chemist, sharply. "Mr. Brander?"

"Yes, Mr. Lempereur," said the smooth-coated voice, so that even Drake could overhear.

"I should like to know just what information you have on the apparent forcible taking off of my friend, Doctor Brill-Jones."

"Why are you calling *The Star*, Mr. Lempereur?" asked the receiver, and the vibrations of the black metal disc gave the chemist an impression that both caution and irony were running over the wire. "I understand that you usually turned to *The Times* for information? Funny that you should now be asking *The Star* for help, after the independent tone you took with me the other day, isn't it?"

"Your paper," said the chemist, his lips white and thin in an effort at control, "seems to know more about the matter than any other."

"Thank you so much, Mr. Lempereur. We like to think that our coverage of the news is a little bit more complete than our competitors, but it's always nice to have some outsider—especially such a severe critic as you, Mr. Lempereur—recognize the fact."

"*What do you know about this business?*"

"Oh, it would take too long to tell you over the 'phone. We'll have another edition out in a few minutes. I'll send you a complimentary copy!"

"What were you trying to call me about this morning?" said Lempereur, squeezing the grip of the handset so hard that Drake expected to hear it crack.

"I thought you might wish to reconsider the stand you took in our little conversation of Wednesday. You might have changed your mind, eh?"

"How did it happen that your reporter was so fortunately on the spot at the moment my friend was being abducted? Doesn't that strike you as a bit curious?"

"Not at all. Our men have a lucky way of being on the spot. That's their business. I suppose you know that that same reporter gave his life in an effort to save your friend?"

"What's that?"

"You evidently don't keep in touch with our paper, Mr. Lempereur. Our Mr. Bernbaum, the man who you threw out of your office with such scant courtesy the other day, was shot, at noon today, by the men who have taken Doctor Brill-Jones prisoner, while he was trying to telephone a description of the thugs and their car to the police. A great loss to *The Star*—We had a flash about the shooting in our last edition. There will be more in the next edition. . . ."

"You say your reporter was shot dead?" asked Lempereur, and Drake swung from the window with an exclamation of astonishment.

"He was not instantly killed, poor chap. He was shot three times through the stomach, and died in an ambulance on the way to the hospital. A very unpleasant way to be killed, as I'm sure you realize. It shows that the men who have taken off your friend are stopping at nothing, doesn't it? I do hope that no harm has come to Doctor Brill-Jones—yet."

"Have you any idea who these men might be?"

"Of course not, Mr. Lempereur. It seems to me I should ask *you* that question. After all, you ought to know who your friend associates with, and who might have a grudge against him, or against some—ahem—organization he belongs to. Could there be any one who would object to your investigating the Hunter case, just for example?"

"The death of Doctor Hunter is hardly even yet a

subject for criminological investigation. I still am inclined to believe he died of natural causes, but I am interested, and I am conducting routine analyses."

"Oh, then you did hold a post mortem this morning, as I learned you were planning to from *The Times*? I had a report that you spent most of the forenoon at the undertaker's, and I supposed that was what you were doing. Would you like to give me a few inside facts about the robbery at Doctor Hunter's laboratory? You can understand that I don't like to get *all* my news from *The Times*."

"I cannot discuss that with you now. Every minute is valuable. I must make whatever moves seem wise, at once, to locate my friend and to assure his safety. If you get any special information about this matter I trust you will communicate with me immediately."

"Well, since you are now coming to *The Star* for help, I guess I can ask you to make me the same promise. You can't expect something for nothing, Mr. Lempereur."

"You pick a poor time for bargaining, when a man's life may be at stake, Mr. Brander. I am not coming to *The Star* for help; I am demanding your co-operation in saving a human being."

"I'm afraid we're not in the newspaper business to save humanity, Mr. Lempereur. We pay for what we get, and we expect to be paid for what we give. I was anxious to co-operate with you when I called you the other day. I made you a fair offer, and you threw it down. That offer still stands. Do you accept it?"

"Not if it meant death for every member of the Catalyst Club," said the chemist, between his teeth, and hung up.

Drake had been leaning over the desk with his hand on Lempereur's telephone during the last few remarks, and as soon as he saw that the other conversation was finished he whipped the receiver off the hook.

"Check on that shooting," Lempereur told him, and sank back in his swivel chair.

"That's what I'm going to do," said the reporter. He gave *The Times* number, and asked for the City Desk. After a few seconds, a loud, blurred voice answered him. Drake fired a number of questions into the mouthpiece, listened for a couple of minutes, then said: "I'll get in as soon as I can," and cut off the connection.

"Well?" said the chemist.

"It's straight stuff about Bernbaum," Drake answered. "He was bumped off about noon, in that little wide-place-in-the-road called Pinole on the way from the East Bay to the Carquinez Bridge. The Desk got the dope from the police and sent one of our men up there. He's just 'phoned. It seems about 11:45 a car drove up to a service station on the highway through the village, and stopped to get gas. There were four men in it—get that. Two of them piled out and went into the station. One asked for a piece of paper and an envelope; the other went into the washroom. The only attendant got the paper and went out to give the car gas and oil and so forth. Some minutes later, according to what he told the police and our reporter, he heard three explosions, inside the building. One of the two men who had gone in there came hustling out, sticking a rod, still smoking, into his pocket, and told the service station attendant to get the hell back into the house and not look out, if he wanted to go on

breathing. The attendant did go in, but he took a peek, and had the pane of glass he was looking through shot out in front of his face for his pains. They missed him, but he couldn't get the number, as he'd wanted to—only the make and model of the car, a cheap sedan. When they'd cleared out, he went to the back of the building where the other guy was, and found him lying by the telephone, moaning, and obviously badly hurt. The receiver was swinging from the cord, but the attendant juggled the hook and got first the police and then a doctor. All that the guy who'd been shot could do was to identify himself as Bernbaum, and ask them to tell *The Star* what had happened. He died in about an hour, while they were trying to get him to a hospital. Now what do you think of that?"

The big chemist heaved himself out of his chair and began to pace the floor of the office like a black-crested storm cloud.

"I know what I think," he said.

"I agree with you," said Drake.

PUSH SEARCH, CHEMIST'S DICTUM!

"But," said Lempereur, "Brander is too smart to involve his paper in such a business. You know I've told you often that men are of four kinds; ninety per cent of them remain harmless children all their lives; a small percentage become dangerous children. A few men are mature, but harmless. And just every once in so often you run across a man who is both fully mature and dangerous to boot. I believe we must compliment the managing editor of *The Star* to the extent of including him in this last class. If my judgment is correct, he will make a magnificent opponent. A man of that calibre would certainly not be guilty of such a puerile move."

"And why should Bernbaum, their own reporter, be caught off the bag? In Pinole! By God, what a place to get lead poisoning!"

"I suppose I understand your slang," was Lempereur's comment to the newspaper man, "but I can't say I understand the fact."

An unusual commotion began in the hall outside the chemist's private office. It resolved into heavy and rapid footfalls and an unintelligible remark in a man's voice, and approached swiftly. Without a knock, but with a bang and a chatter of the glass panel, the door was flung back and Newton Bulger burst into the room.

"Hey, do you know about Cy?" demanded the newcomer, although the gravity of the faces of the two conferees must have told him the answer before he spoke. "I guess you do. I didn't find out about it until I got back to the East Bay an hour ago— And I saw him at noon, and never guessed that he was in trouble. Can you tie that?—The poor little feller!"

"Saw *who* at noon? Brill-Jones? *This* noon?"

"Yeh. Let me catch my breath," demanded the stoutly built man, emitting spearmint strongly. "If you'd only put in a fast elevator, T. M., you'd save your friends in a hurry a lot of wind."

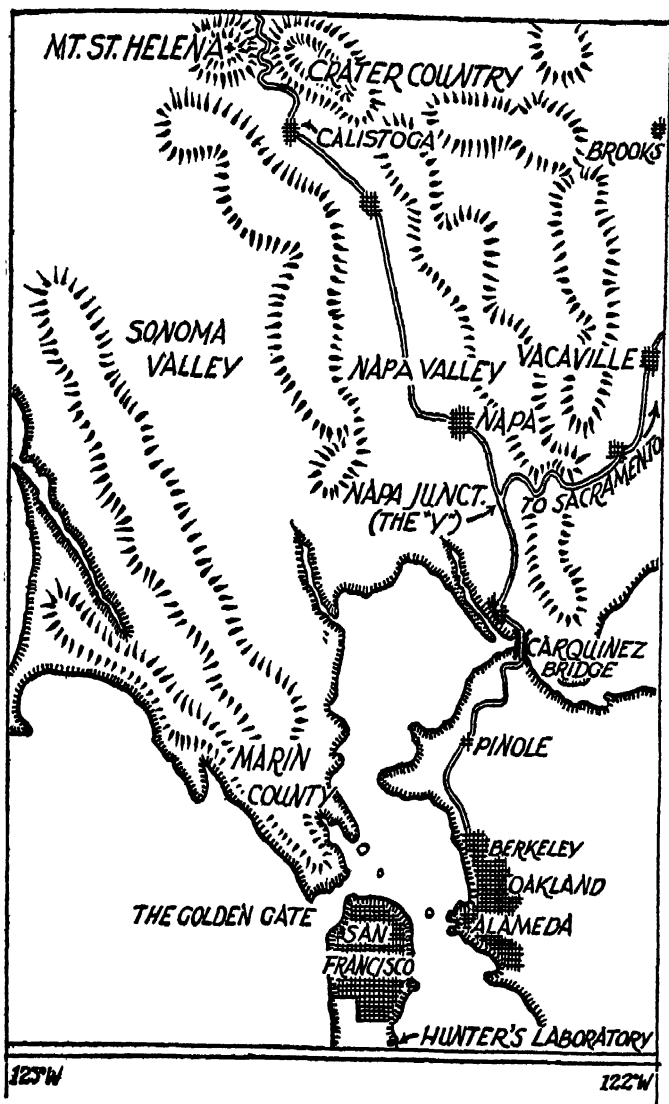
"Don't waste breath telling me how to run my laboratories," the chemist advised him. "How did you happen to see Brill-Jones this noon? Are you sure it was Brill-Jones?"

"Absolutely! Well, it was like this. After practically taking yesterday off, to investigate that physics outfit with you, I felt I better do a little work, just so the Pittsburgh Equipment Corporation wouldn't think their western sales manager had died. I found I had an appointment with a certain guy in Sacramento this morning, so I drove up there, quite early. I finished corrupting the county authorities into buying some excavating machinery at about eleven——"

"Get to the point!" said Lempereur.

"The point," Bulger informed him, "was the Carquinez Bridge,* and the time, half past twelve. As I drove southward out of the toll station on the north end, a car came up from the other direction, slowing down to pay toll. I hadn't picked up speed, myself,

*See map, page 111.



and I just happened to look at the guys in the other car. There was one ugly-looking mug at the wheel, and two guys in the back seat, sitting close together. I was plumb surprised to see that one of them was our friend Cy Brill-Jones. I couldn't of been mistaken; he was right up against the window on my side."

"That checks," exclaimed Drake. "Four men come into the service station at Pinole at 11:45. One is left there with some hot lead in him, and three go on, reaching the bridge at 12:30. In that case, Cy, and Bernbaum, and the bird who shot Bernbaum, were all in the same car, with a Kansas license——"

"The car I saw Cy in didn't have a Kansas license," Bulger said, with great certainty.

"Not a Kansas license? Then *The Star* is warning the police to look out for the wrong automobile! Did you get the number, Newt?"

"No! And you can kick me on both cheeks for being so dumb. I was so surprised to see Cy there at that time, that my brains were not turning over at more than idling speed. I was past them before I did any thinking at all, and then I stopped on the bridge and tooted my horn, and started to back up toward the pay station. But naturally, the way things were going, they paid quick and went on. I supposed then Cy was in a hurry to get to some fish meeting, and hadn't heard me toot. Of course, I had no idea what was going on. I even saw the crowd around the gas station in Pinole and wondered what was up. When I got into East Bay I saw a headline and bought a paper, and then I realized what the hell was happening. Now, what are *we* doing?"

"What kind of a car was he in?" asked the chemist.

"I wouldn't miss that, anyway," Bulger said. "It was a last year's Chevrolet sedan, with two yellow fog lights down below the bumper in front, a slightly crumpled right front mudguard, and a sticker on the windshield saying 'Press Car.'"

"*What?*" cried the newspaper man.

"Yeah. And while I didn't get the number, I saw the colors of the rear plate long enough to make sure it was a California license."

"This doesn't make any sense at all," Drake protested. "Cy is taken off in a press car, and goes racing northward, shedding dying *Star* reporters at every jump. Brander must know more about this than he'll admit. And yet, as you say, he wouldn't dare get *The Star* involved in abduction and murder. There's too much heat in that stuff. It all looks cockeyed."

Bulger tossed his hat on the couch, and sat on the edge of Lempereur's desk. The chemist continued to stride heavily up and down. Drake leaned his back against the window and scanned his elders in gloomy bewilderment. Bulger was the first to speak.

"Do you know what I think? I have a hunch that this business is tied up hand-and-glove with the Hunter case, and that if we can crack the Hunter case, we'll see the whole thing, and have a good lead to where and why Cy has been taken off."

"We know it has some connection, since they asked him about Hunter's death before they grabbed him off," Drake agreed, and added a hopeful note: "There's one thing. Whoever they are who ran off with him and have him now, they don't mean to kill him right away, or they'd have done so long before they hit the Carquinez Bridge—when they unloaded

Bernbaum, say. In other words, Cy is not being taken for a ride. It's a McCoy snatch. Beg pardon, T. M.,—I say it's a real kidnapping."

The chemist's black brows were nearly touching over his beak, and his gray-green glance drilled through the reporter.

"They think they can get something out of him, or in exchange for him. Since he isn't rich, and has no rich relatives widely known here in the West, it can't be money. It must be information."

"Information *he* has? *What?*" demanded Drake.

Bulger bored back into his most recent theory:

"Something in connection with the Hunter case."

"But *he* doesn't have information on that case," objected Lempereur. "I've been making this investigation."

"Maybe they think he has," said Drake. The salesman suddenly dropped a sharp oath.

"Say," he said, "you don't suppose they'd—they'd *hurt* him to try and make him tell something he doesn't know—like where those damned papers are that disappeared out of Hunter's safe?"

"Torture?" said the chemist, his eyes narrowing. "They'd better not, if they set any value on their own skins!"

Drake groaned.

"A guy who has killed a newspaper man by shooting him in the belly already has a price on his head so big that he hasn't a Chink's chance. The rope's as good as round his neck right now, and he'll know it, too. *The Star* will just naturally have to track that killer down, and his accomplice as well, and see them hanged, if not lynched. And every paper in the coun-

try is bound to help *The Star* get those men. Look at what *The Chicago Trib* spent trying to hang the murderer of Jake Lingle.* The papers are like the cops; they have to make the killing of one of their own men amount to suicide for the murderer. No, you can take it from me that whatever they may have been before they bumped off Bernbaum, the guys who have Cy are desperate men now."

"And even if he isn't hurt by them," said Bulger, "I hate to think of Cy's being in the middle of those thugs when they become cold meat for the guns of every cop in California."

"You know," the reporter said, unhappily, "I can't keep from thinking about that silly little green felt hat he used to wear. It looked so damned ridiculous!"

"And that one suit of his, hanging on him like a gunnysack," added Bulger, with no amusement.

Lempereur spun on his heel, and banged his fist on the top of his desk, an overflow of emotion that his companions had never seen in him before.

"Don't talk like that!" he snapped. "You two never needed brains worse than you do now, and all you can produce is worthless sentimentality. If you can't think, yourselves, at least keep quiet and let me think for you. I am confronted by an intricate, not to say baffling, problem. It must be solved at once, and it will challenge all my powers to solve it. The critical line of attack is through the curious connection of *The Star* with the matter. I must play back the conversation I had with Brander just now. Did he know

*Alfred ("Jake") Lingle, "legman" for *The Chicago Tribune*, shot to death in the underpass leading to the Illinois Central Station, in Chicago, on June 9, 1980. The investigation of this crime is reputed to have cost \$150,000.

that a press car was involved while he was talking with me? Is the description of the automobile with the Kansas plates a piece of pure fiction? Perhaps, if I play back that record in the light of Bulger's new revelations, I can judge how much Brander knew while he was talking with me. . . ."

"Wait a minute before you worry about your phonograph record, T. M.," put in Bulger, whose good humor had survived worse attacks than the chemist's latest. "Believe it or not, I *have* done a lot of thinking about this case. We'll have to chase that auto, of course. And no doubt *The Star's* connection with the business must be followed up. But I think the thing to do is to attack the problem from another angle as well. I'm sure the key to the whole matter lies in the Hunter case. If we can crack that——"

"I now agree that it may have some connection," said Lempereur. "However, I doubt if we have time to go about removing the immediate danger to Cy by that route."

"It may not take so long," Bulger urged. "I think I have it all figured out. You'll admit that my first hunch was good; there was more in Hunter's death than met the eye, wasn't there? O. K., then. While I was driving up to Sacramento this morning, I got further along with my theory—and, T. M., you ought to have a post mortem of Hunter."

"That's been done," said the chemist.

"Swell! Are you fixed to test for poisons?"

"Yes."

"Good, because I'm going to tell you now just how the late Doctor Hunter came to die. It came to me all of a sudden, and, T. M., you were right—that janitor

is the key to the case. I believe Hunter was poisoned, just as I guessed he was at our last meeting. And I believe that janitor did it. I haven't figured out why yet. What do you think of that?"

"I have little hope for your theory," said Lempereur, "but out with it, Bulger, quickly."

"Well, you know Erickson told us that the janitor drank a lot of that radium water. I don't believe he drank it. I believe he put it in Hunter's water bottle when he filled it every morning, as Miss Hunter said he was in the habit of doing. I think Hunter died of radium poisoning. I was so steamed up with this idea that as soon as I got to Sacramento I telephoned long distance to Len Sloat—woke him up out of a sound sleep at ten A.M. He said he could recall off-hand half a dozen actual cases of deaths caused by drinking radium water, although he said it might take him quite a while to locate the references to a murder by this means. He was plumb interested. He said it was a novel way to imagine a guy being killed, and that it would take a long time to murder a man with that stuff."

Said the chemist: "It certainly would, and it seems to me a very far-fetched method, at that."

"T. M.," Drake suggested, "you remember Mac-Carden's favorite theory that any method, however fantastic, may appeal to the proper kind of a murderer. Don't forget he's been right plenty of times."

"Suppose I was on the right track," said Bulger. "Can you taste radium in water?"

Lempereur snorted impatiently.

"You talk as if radium were something you could measure into a victim's glass with a teaspoon, like

arsenic. Of course you wouldn't be aware of such radio-activity. The liquid would taste just like any plain so-called mineral water."

"Then a guy could drink it for months without knowing it?"

"I suppose so," said the chemist.

"Well, if Hunter was killed that way, could you find traces of that sort of poisoning in his insides?"

"Yes."

"Have you found any signs of it already?" asked Bulger.

"You know," observed Lempereur, slowly, "there may be something in what you say, for once. The symptoms I noted in John Hunter's body this morning were not incompatible with such a theory, as wild as it sounds. I can test the organs for radio-activity immediately. If I find this condition, it will be conclusive support for your theory. If not, it is no final proof that you are wrong. Radium behaves like calcium in the system; it is stored in the long bones and, for some reason not clear to us, in the jaw bone. The specimens I have here in the laboratory do not include any skeletal structure. Therefore, if Hunter was poisoned by prolonged doses of radio-active substance, but hadn't taken any into his system for some time before his death, I might get no reaction from the material I have here. Only a disinterment order would make a final test possible in that case."

"At least a month has passed since the janitor was fired."

"That wouldn't make any difference—a month is little more than an instant to the element radium. It has a time period of 1700 years. However, don't make

the mistake of thinking that I am convinced you have hit upon the fatal substance."

"Well," said Bulger, "you'll test for all kinds of poisoning, won't you?"

"Obviously," the chemist assured him, "until we find something, or have exhausted the possibilities of analysis. I have no time to give you a lecture on poisons, and I suppose you have been too lazy to read the books I've recommended to you.* But I may say that we will be able to tell very shortly if any common inorganic poison has been used—such as arsenic, phosphorus, or salts of the heavy metals. I have no reason to think that Hunter's death could have been caused by this type. If, on the other hand, an organic poison is involved, especially if it is some rare alkaloid, the examination may take three to four weeks."

"We can't wait that long," said Drake. "We can't wait twenty-four hours. An hour from now may be too late. We've got to try and get Cy out of this mess as quickly as is humanly possible."

"I shall detach one of my junior engineers," said the chemist, "and put him at making the tests at once. This will leave me free to consider matters of major strategy. Bulger, I am far from accepting your theory, yet, but you might see if you can find that janitor, if you have nothing better to do. I feel sure you'll be more effective working on your own theory than on any I might give you. Here is almost a full

*Lempereur has repeatedly urged the other members of the Catalyst Club to read Webster's *Legal Medicine and Toxicology* (Philadelphia, 1930) and Jeserich's *Chemie und Photographie im Dienste der Verbrechensaufklärung* (Berlin, 1930). He has met with indifferent success, although MacCarden is familiar with the contents of these books.

set of ten fingerprints, taken from that framed poem of the younger Richmond. They are not his; I assume they belong to your precious janitor. You might check them with the police files to see if he has a record already."

"The Pittsburgh Equipment Corporation thinks I have something else to occupy my time, but I won't let a little consideration like that stand in the way. Anything I can do, I'll do, to help cut Cy out of the herd of gunmen he's fallen in among."

"*The Times* has the idea it owns me, body and soul," Drake said, "but the hell with them, in a case like this. What do you think I ought to work on, T. M.?"

"There can be no two opinions on what you should do—trace that car! We know it crossed the Carquinez Bridge, going north, at—what time, Bulger?"

"About 12:30, this noon."

The reporter slid back the damp cuff over his left wrist, and said:

"Five-thirty. We're just five hours behind them. If they're bound East they may be climbing the Sierras by now. I'll borrow Newt's car——"

"You will not," Bulger assured him. "That's the company car, not mine, and for official business only. Besides, I need it to trail that janitor—I believe I can beat out of him who are the guys that have run off with Cy, and where they're going."

"Rent a car, Drake," said the chemist. "I'll pay for it."

"O. K.," the young man agreed, and for the first instant that afternoon the corners of his mouth quirked upward a trifle. "I'll let you know how much it costs—and maybe I can get *The Times* to pay for it, too."

Lempereur looked disapprovingly at his junior and said, curtly:

"Drive to the bridge as fast as you can, and follow on from there without delay. As long as they don't think to remove that Press sticker, it should be seen by some one wherever they go. Don't be blinded by a preconceived certainty that the car went East. They may have gone in any direction, even doubled back to the southward."

"What about the cops?" asked Drake. "There will surely be state troopers on the trail by now—maybe even G-men, under the Lindbergh Law. Do you want me to play in with them?"

"Use any of them that you happen to run into in the field for as much as you can get out of them, but tell them nothing," the chemist advised him, after a moment's consideration. "I'll be able to deal better with headquarters here in the city, and probably get more information to boot. If they are still chasing a car with a Kansas license, all the better. We know that by the time the abductors reached the bridge they had either transferred into an automobile with a California registration, or else had never been in one with Kansas plates. Bulger is probably the only man in Northern California who could recognize Brill-Jones inside a closed car, and we may be the only ones who have a true description of the sedan in which our friend is being carried off. If this is so, it's all to the good. The regular police are always too ready to burn powder, and we don't want Brill-Jones shot in what your paper would refer to later as a 'running gun fight.'"

"O. K.," Drake said, brightening at the prospect

of more action than thought. "I'm off. What are you going to do?"

"I mean," said the chemist, "to sit down now and make an effort to analyze exactly what is the probable connection between the abduction of Brill-Jones and the Hunter case, and just what the devil is the part played by *The San Francisco Star* in the whole matter. I expect both of you to call me collect, here, whenever and as soon as you develop anything, and I will then let you know what I have been able to bring to light. I shall not go home; if I get sleep it will be on that couch. I shall keep on a number of my men, and the hunt for poisons will go on without recess until we get results."

With no further comment, Drake and Bulger went out. Lempereur sat for a moment in his swivel chair, leaning with his elbows on the desk and his square hands covering his ruddy cheeks. Then he rang for his secretary, and asked her to bring him the record of the telephone conversation he had just had with the managing editor of *The Star*. She informed him that an incoming call was being held at the switchboard, and would he take it? It was Mr. Sloat. He had been trying to reach Mr. Lempereur all afternoon.

"Oh, very well," said the chemist with a shrug. "Never mind about that record. I'll take Sloat on the regular instrument."

A moment later the hoarse imprecations of the old lawyer were buzzing in Lempereur's ear.

MISSING FISH MAN HUNT WIDENS!

Lempereur had disagreed more often and more violently with Leonard Sloat than with any other person in the world. John Gregory Hunter, for example, he had not seen so frequently as he did Sloat. Although Sloat never appeared at the outdoor meetings of the Catalyst Club, the Club occasionally went to him, and whenever an important case was under consideration he taxed his fellow members with incessant telephone calls. To this talent for interruption Lempereur submitted (with less grace than any of the others, however) because Sloat almost always contributed some sound idea toward the investigation. The chemist's talk with him on the day of Brill-Jones' abduction was no exception.

It took Lempereur a good half-hour to satisfy Sloat that he was in possession of all the large and small details of the Hunter problem, and of all that had transpired in connection with the disappearance of their friend. Sloat felt sure that the two matters were intimately related, and somewhat gloomily pointed out the close parallel between the Brill-Jones kidnapping as it had so far developed and that of Brooke Hart.* He took very seriously the intrusion of *The*

*Seized near his home in San Jose, and murdered, November 9, 1933, by J. M. Holmes and Thomas H. Thurmond. The perpetrators confessed, and were lynched, under circumstances which advertised the case to the entire nation. (See California newspapers of Nov. 17, *et seq.*)

Star into the affair, and commanded Lempereur to bring him the records of the two conversations with Abel Brander as soon as possible. At the end of their talk, the old lawyer suggested an obvious way to test the validity of Bulger's radium-water theory which justified in Lempereur's mind the entire time required to acquaint Sloat with the problem. As soon as he turned from the instrument, the chemist called one of his younger engineers, gave him precise instructions, and sent him packing off through the darkness and rain. Then he sat back in his chair, folded his arms on his deep chest and withdrew into a black study.

After a while he rose and went to look for the record of the last conversation he had had with Abel Brander. A fresh composition disk was in position on the motionless turntable of the recording machine, the stilus waiting in the outermost groove to engrave each slight vibration of the next voices it might be asked to preserve. The chemist unlocked the cabinet in which were kept the back records, and pulled out the last one. On it was written, in his secretary's hand, "Conversation between T. M. L. and Mr. Abel Brander." This notation was followed by the date, and Lempereur saw that it was the first conversation, not the one he wished to hear again. The girl must have removed the last record from the machine when he asked her for it. He returned to the office and went through her desk, without finding what he sought. Finally he shrugged. She had put it away carefully when he sent her home. He would ask her for it in the morning. After all, he could remember almost word for word Brander's faintly sneering sentences.

The chemist paced about uneasily—the physical re-

flection of the process of trial and error through which his mind was going. He walked down the short hall to the library, passed through that room to a closed door, unlocked it, and entered his private criminological laboratory, which occupied the westward-pointing corner of the third floor. He threw the light switch, strode to a table where lay the fragments of burned paper pressed carefully between sheets of glass, and inspected them again under the rays of an ultra-violet lamp. The few words stood out as clearly and non-committally as they had when he examined the black scraps earlier in the day. It was John Gregory Hunter's writing, unmistakably, and as certainly notes bearing on his atomic researches; but it was all too fragmentary to suggest the direction of the thought. Lempereur put the frames down with a dissatisfied grunt, glanced at the fingerprints he had developed on the decanter and tumbler and the "Hercu-vita" bottle,* repeated the grunt and returned to his office and his meditation.

The evening wore on. He came to no very satisfactory conclusions; still, hour after hour, his brain rolled over the factors in the complex situation—combining, rejecting, building edifices of theory, and demolishing them one after another.

As his mind burned in the darkness of his skull, so the windows of his office, high above the deserted gleaming stretches of Folsom Street, glowed against the thrust of the storm and the imponderable pressure of the night. This cube of warm light seemed disconnected from the ground, as though symbolizing the detachment of the chemist's laboring intellect; yet

*Plate III, facing page 92.

from the telephone instruments on Lempereur's desk ran out a pair of nerves which acted as extensions of his own system and tied his brain to the whole world lying out there beyond the streaming window-panes.

These two lead-sheathed double threads snaked downward from the office close to the skeleton of the building, united with others at the ganglion-like switchboard on the ground floor, crawled through the foundations, were drawn into a great bundle of similar fibres, and with them hurried under the flooded pavements to the exchange, where they became part of a system whose complexity would stagger an anatomist.

Toward eleven o'clock the buzzer under the desk called Lempereur to the telephone. Miss Smiley, as usual, had left the circuits so that by throwing a switch, he could choose the regular or the recording instrument. He had no reason to suppose that Brander, or any adversary, would call at that hour, and therefore he was using the non-recording instrument.

The person at the other end of the wire was his wife, speaking from Marin County, across the Golden Gate. From that distance, and under all that burden of rain and seawater, the dry, swift impulses in the wire brought her voice to his ear as quiet and warm as though she were beside him. She wanted to know whether Frances Hunter had reached the laboratories yet; it was such a wild night; she was naturally a little worried. . . . The chemist said that Frances Hunter was not in the building to his knowledge, and why should she be going abroad at this time and in such weather? Mrs. Lempereur answered that she did not

know; that Frances had left around ten o'clock, over her protests, with the younger one of the Richmond boys. The girl had said rather vaguely that she intended to go to the laboratory, and so Mrs. Lempereur had supposed. . . . The chemist promised to call back if Frances arrived at any reasonable hour, told his wife not to worry, bade her good night, and hung up. He was irritated that the girl whom Hunter had left under his protection should have chosen this moment to add to his anxieties.

He was given no leisure to face this new complication, or even to decide whether or not it was worth facing. While his hand was still on the instrument, the buzzer spoke again, urgently. He put the receiver once more to his ear, and a deeper, less placid voice than his wife's poured in out of the dark world beyond the blind panes.

"Hullo? T. M.? O. K.; this is Newt. God, what a night, eh?"

"I hadn't noticed, particularly," the chemist assured him.

"Yeah. You wouldn't," said Bulger, his voice coming as near to bitterness as he could contrive. "You're in a nice snug office, while your field men are going through hell and high water. I'm as wet as the traveling salesman who got caught in the flood—did I ever tell you that one? It seems the river rose, and he was stuck on an island with only one other person, and she——"

"Never mind," said the chemist. "You haven't told me that one, but I don't want to hear it. What are your findings?"

"Not so good, T. M. First thing I did, I took that

set of fingerprints you gave me to the Central Bureau of Identification. They were nosy, but I didn't tell them anything. After about an hour they said the prints were strangers to them—they haven't a thing like them in the files. I take it that means that the janitor has no criminal record, eh?"

"We can assume that he has no local criminal record. I've telegraphed the classification to the Federal Bureau at Washington. I should hear from that tomorrow," Lempereur told him.

"The next thing I figured was I better try to track him down this evening, if possible. I didn't even know his last name, much less his street number. So I called Winfield Richmond, and got the name and his last address. I only spilled enough to Richmond to get his co-operation."

"How much did you tell him?" asked Lempereur, fearing the worst.

"Oh, practically nothing. Just that we thought Hunter had been poisoned, and we figured the janitor had done it."

"That was entirely too much."

"Well, how was I to get the dope out of him?"

"Let it go. What did you find?"

"Nothing but bad news. I drove straight off to the house where this guy used to live, and found out that he left the city yesterday morning for Southern California."

"Yesterday morning?"

"To the minute," Bulger agreed. "It seems that when Winfield Richmond fired him, he sweetened the parting with a bonus of \$200—the way that boy throws the dough around! So it appears that the jani-

tor, having become a rich man in this way, decides he will go south and invest his new-found wealth in Hollywood real estate, and live in luxury on his rents from now on. That's anyway what he told Mrs. Solomon Svirsky, in apartment 3-B, and everybody else. Every one I could find who knew him gave me the idea that he wouldn't swat a fly, he was that gentle and good. To tell the truth, he sounds like the perfect sap. He didn't leave any forwarding address."

"That would seem to put him beyond our reach for the time being," observed the chemist.

"I still think you'll find my theory will hold water," Bulger warned him. "It's mighty suspicious the way he runs off just at this time, if you ask me. Did you find any radium in Doctor Hunter's remains?"

"No, but Sloat has suggested a very reasonable way to verify your hypothesis. I am working on it now."

"What is it?"

"I'll tell you when I find out if it works," said Lempereur. "It would be sheer waste in this emergency to concern ourselves with trying to locate a man in Los Angeles until we are positive he is involved in the Hunter case, and not only in that, but in the abduction of Brill-Jones, as well."

"What should I do now, T. M.?"

"I suggest you go home to bed. I can think of no further investigation I can put you on at this moment, and I will call you at once if I need you."

"T. M., you know I can't sleep, with Cy somewhere out in this storm in the hands of those sons of —— say, why don't I come up and spend the rest of the night with you? If you're not using that couch, I could lay on it. How would that be?"

"Impossible!" the chemist told him flatly. "I don't want you. If you feel you must keep on the move, why don't you drive to where Drake is and help him follow the automobile they took our friend off in?"

"Where is he?"

"Probably north of the Carquinez Bridge; how far, or in what direction I couldn't tell you."

"Well," hesitated Bulger. "Well, I'll tell you, T. M., if I don't call you back in the next hour, I'll be at home. Be sure to 'phone me up if anything happens, won't you?"

"Yes. Good-by," Lempereur said.

Again the buzzer demanded immediate attention almost before he had put down the transmitter. He settled himself upon the desk, and heard the saccharine syllables of a telephone operator say, on a rising inflexion: "I have your party now, deposit thirrtty-five cents for threee minutes, pullease." And he heard the deep "gong!" and the two high "pings!" which told him that the person at the other end had complied. He had been expecting a communication from the reporter for some time, and he now was able to guess, with considerable accuracy, just how much distance the younger man had put between himself and the city.

"Hullo, T. M.! That you?" demanded the rapid voice that he expected to hear. "This is Buzz Drake. Say, I haven't much time—I'll have to shoot the works in a hurry. I forgot to make the call collect; something must be the matter with my head; my nurse dropped me when I was a wee little baby."

"You haven't got very far along the trail of that automobile."

"You're telling me? I'm at Napa Junction, what they call the 'Y,' and I don't know where I'm going from here, either." *

"What have you found out?"

"Plenty; but not enough. I stopped at Pinole first, and got a lot of first-hand stuff on the shooting of Ike Bernbaum. Do you want it?"

"Yes."

"It may not be so helpful, but it's interesting. The car pulled in just as the story has it in all the papers; at quarter to twelve. Two men stayed in the back of the car. I suppose one was Cy, and the other was a heat man—a torpedo. The driver of the car, and the guy beside him, got out. The service-station attendant says it was the driver who did the shooting, later. The front-seat passenger said to the driver: 'I gotta go to the washroom,' and the driver told him to make it snappy. The driver then asked the attendant to give him a piece of paper and an envelope, and he went into the front of the station and wrote something on the paper for about five minutes, or so. In the meantime, the other guy had disappeared, and the attendant was out feeding the automobile."

"Which 'guy' do you mean had disappeared?" asked Lempereur.

"Bernbaum, *The Star* man," said the distant voice. "And, T. M., I have it all figured out what he did, and he was smart, and he had plenty of nerve, and he came pretty close to being lucky, too. Only his luck ran out just at the wrong moment. You see, it was this way. That service station isn't a company station; it's really more like a country store with a couple of

*See map, page 111.

pumps in front. The attendant owns the store, and lives in the back part of the building. Now, this is important: there is no telephone in the front of the house—only the one in the back which the guy uses himself. He usually won't let any one telephone. What Bernbaum did was this: He went through the door facing the front of the station marked 'Men'; and the way he had good luck, for a while, was that the can also opened into the living part of the house by another door. He must have whipped through that back door, while the guy writing the note out front thought he was safely in there, and found the telephone and called *The Star*. That gave them the dope for the story I showed you at the cemetery. He also made one other call to San Francisco, because the service-station owner checked up later with the telephone company to see what it was going to cost him—anyway, he got too damned chatty—he took just a little too long. I dope it out that the gunman in the front got through writing, and began to get antsy-pantsy to go on with the kidnapping where he'd left off. He hollered to Bernbaum to come on out, and either Bernbaum didn't answer, or his answer sounded phoney. So this thug at once gets suspicious, busts through into the back of the house, finds Bernbaum saying things to *The Star* that he doesn't like, and puts the heat to him on the impulse of the moment."

"Am I to conclude," put in the chemist, "that you believe *The Star* reporter is not implicated in the abduction of our friend?"

"I can't go that far, yet," said Drake, "but I do think if he was he must have changed his mind and turned ha-ha guy—he was squealing, in other words."

"It's a remarkably intricate business," Lempereur reflected. "Theorizing aside, what further facts have you uncovered?"

"After I had the picture of the situation at Pinole well in mind," the reporter said, "I galloped ahead to the bridge. The toll-gate collectors had all been changed since this noon, of course, and I had to go back across the bridge to that village underneath it to find the guy. In the first place, he remembered very well the kidnap car going through, at about half past twelve; he was just eating his lunch. He particularly noticed the Press-Car sticker on the windshield; he asked the reporters, as he thought they were, whether they were going up to some ball game in Napa. The driver, while he paid, grunted that they were going 'the other way.' He seemed to notice the sticker for the first time, because the toll collector said that he leaned forward as he drove off and seemed to be ripping it from the windshield. That was all he knew."

"I trust that you—" began the chemist.

"Oh, of course. I zipped right back over the bridge and took a flashlight to the right-hand ditch. I found it all right. It was about two hundred yards away from the toll-gate, to the north. If it's fingerprints you hope to get, just the same, I'm afraid you haven't a chance. It is crumpled, and the rain was beating down on it. It's so soggy I hardly dared pick it up."

"Never mind," Lempereur ordered. "Take the greatest care of it. Don't *you* try any amateur efforts to dry it or straighten it out, either. Leave that to me."

"Don't worry. But, T. M., I can see that it's definitely the type of sticker used only on *The Star* press

cars; no one else uses that font, or that colored ink."

"We'll determine that here. I want it as soon as you can get it to me."

"You don't think *I* should come back now?"

"No. Put that sticker in the safest container you can buy there at the 'Y.' Then, before you continue the search for the car, find some responsible person who is willing to bring it straight down here, at once. Tell him I'll pay him anything you think necessary to make him come here in a hurry. What else have you discovered?"

"I went on up the road, a damned sight wetter than I was before I did that ditch-hopping. It's raining here fit to drown a duck. You know the highway goes from the bridge through Vallejo to the Napa Junction fork. There are some side roads, but I went straight, guessing that the driver of the kidnap car would stick to the main road if he wanted to get places quick. With the one chief identification—the press sticker—ripped off, I had little hopes I'd be able to trace the car. However, I believe I am all right as far as this. A sedan answering Newt Bulger's description, with three men in it, pulled into this lunch-stand and bus depot a little before one o'clock. The driver got out and asked the attendant where he could buy a stamp and mail a letter. The attendant sold him a stamp, and pointed out the post-box. Then the driver amscrayed, and the car went off. Worse luck, nobody noticed which road it took. Now, I'm asking you: Was it Cy and his two palsy-wals? Did they take the concrete to Napa, the Napa Valley, and the north-west? Or did they take the other highway to Sacra-

mento, and the Sierras, and—for all we know—Chicago?”

“Do you believe you are ahead of the police, or behind them?” asked Lempereur.

“I’m ahead of everybody, T. M., and as for the police, I’d hate to have to hold my breath until they get as far as this. The roads are thick with cops—there were two in here just a minute ago while I was waiting for your number to quit being busy—but they’re all milling around in the dark. That break of Newt’s just happening to see Cy in the car has given us a tremendous head start. What pleases me most is that I haven’t a single *Star* reporter anywhere along this trail; I don’t pretend to understand it, but it looks as if they hadn’t any more information than the cops.”

“Don’t forget that you are not just covering a kidnap story for your paper, Drake,” the chemist suggested. “The person in the hands of the desperadoes is Cyriak Brill-Jones.”

“I’m remembering,” said the reporter, on a more sober note. “That’s why I called you. What are your ideas on where I should go from here? I’ve been lucky to follow this far—there seems to be an almost hopeless mess of highways and side roads lying beyond here. I don’t know which one to take.”

“Assuming,” said Lempereur, “that a man who has just shot down another human being will be in too nervous a condition to lie, I should judge that the driver of the car was probably telling the truth when he said they were not going to Napa, but were ‘going the other way.’ I’d be inclined to push ahead along the route to Sacramento.”

“I thought I’d do that,” answered Drake, “but it’s

a long road, with plenty of turn-outs. I wouldn't give odds on myself. You haven't turned up anything there that might help me?"

"Bulger has drawn blank on his janitor theory," said the chemist, "and so far our results in the laboratory have not been helpful.—Just a minute," he added, and looked up from the instrument. A young man in his shirt sleeves had entered. He approached and laid a sheet of paper on the desk under Lempereur's nose. On the left side of the sheet was written a column of the names of several poisons; opposite each was the notation "negative," or "normal slight trace." The chemist frowned up at the young technician.

"Nothing?" he demanded.

"Nothing yet, sir," said his assistant.

"Go right on with the tests," said Lempereur.

The telephone receiver uttered a plaintive squawk.

"What's that? Hey, this is long distance, T. M."

"We have found nothing, so far," Lempereur told him curtly. "You'll have to do the best you can. Call in here every once and so often. If I'm not here, there'll be some one to answer."

"O. K., T. M."

Another voice broke into the conversation.

"Deposit ten cents for overtime, pullease."

The chemist pulled down the hook on Drake's protests, and sat scowling at the paper on his desk-top. His hands were extended on either side of the sheet, and they were clenched into two solid cubes.

Suddenly he rose, picked up his hat and coat from the couch and went out of his office, slamming the door behind him with angry violence.

SLAYER STALKS NEW VICTIM?

When Lempereur swung the snout of his automobile from the highway into the puddle-filled lane across the marsh, he saw, through the toiling sweep of the windshield wiper, what he had more than half expected. The transformed hangar that sheltered John Gregory Hunter's cyclotron was ablaze with electric light from one end to the other.

When Frances Hunter told Mrs. Lempereur that she was "going to the laboratory," the elder woman had naturally supposed that the girl meant Lempereur's chemical laboratory. The chemist's wife had obviously only one strong association with the word. But Frances Hunter, equally strongly, associated it with her late uncle's physics laboratory. Lempereur was in no doubt what the girl meant. But *why* the devil was she going there? That was the frontier where the chemist's doubt began.

It was nearly midnight. It was pitch black. The air was chill and raw. The skies were releasing upon the earth such quantities of water as Lempereur had rarely seen outside the tropics. What urgent business could bring Frances Hunter, in company with the younger Richmond, from Marin County all the way south to this deserted spot?

He drove up to the building as quietly as he could, but he might have spared himself the pains. When he

bolted from the car into the great bright hall, he found that the noise of the wind and of the rain on the roof would cover any other sound from without.

The first person he saw was Hugo Erickson. Hunter's former assistant was making some adjustment on the crouching "atom smasher" in the center of the room, and his back, in its shapeless overall suit, was toward the entrance. No one else seemed to be in the laboratory.

Lempereur walked over to the younger man and touched him on the shoulder. Erickson started under his hand, and turned his pale, scarred face to look at the chemist.

"You surprised me, Mr. Lempereur," he said. "The rain makes such an infernal racket— Here, you'd better not come too near the machine, you know. . . ."

"Why?" asked the chemist. "Are you running it at a high potential?"

"No, but the magnets are on. If you're wearing a watch you'd better leave it over on the work bench. As you can imagine, magnets of that size will almost pull the works of a watch inside out. Step back, or yours will be ruined."

Lempereur went to the bench and left his wrist-watch. When he returned it was with another question.

"Isn't this," he demanded, "a somewhat late hour to be at work?"

"If you can call it work," said Erickson. "Nuclear investigation never strikes me as that; it's too interesting. After all, there are no more fundamental problems in the universe, are there? So far as we can see, we are dealing here with the rock-bottom constituents of all matter, as you know better than I, I suppose."

"Just what are you investigating now?"

"I am firing the triton against a target of bismuth—the experiment, which, I think, Doctor Hunter must have been making just before his death. I am hoping to duplicate his findings. It is disastrous that those papers of his are lost! Who can imagine what puzzles may be solved in that last sheaf of his notes?"

Lempereur shook his head, a shade wearily.

"There is nothing to be learned from the fragments of charred paper which you found in front of the cyclotron yesterday morning. Not enough is left intact. I have given this phase of the case all the time I could spare from the more pressing matter of my friend's disappearance."

Erickson looked at the other man with a cocked eyebrow. As Hunter had said on his death bed, his assistant was not a handsome man, but there was a sort of single-minded intelligence evident in his blue eyes to which the research worker in Lempereur responded favorably. The chemist sketched the loss of Brill-Jones, watching the younger man appraisingly as he did so.

"I hadn't heard about it," Erickson assured him, with an appearance of candor. "I've been here in the laboratory ever since—the funeral."

As he spoke the last two words, he lowered his voice, and glanced toward the row of office doors.

"Is Miss Hunter in her uncle's office?" asked the chemist, noticing for the first time the lights beyond two or three of the doors were burning.

"No," said Erickson, with a faint trace of bitterness. "She's in Sidney Richmond's room."

"Do you know what brought her down here?" Lempereur asked.

"Yes. Indirectly, I brought her here."

"Why?"

"Mrs. Mulcahy turned up at the laboratory."

"Mrs. Mulcahy?" said Lempereur, forgetting for an instant the name of the elderly domestic to whom he had had to feed triple bromides after the death of Hunter.

"Doctor Hunter's former housekeeper," Erickson reminded him. "It seems that in cleaning up the house late this afternoon she came across an envelope, sealed, and directed to Miss Hunter in her uncle's writing. Mrs. Mulcahy couldn't think how to reach Miss Hunter. She got her son to drive her down here after supper, on the chance that some one would be still at the laboratory. I was, and offered to take the letter and see that it was delivered. But you know what an old tigress she is. She wouldn't let it out of her hands except to give it personally to Doctor Hunter's niece. She sat over in that chair, sniffing from time to time, for nearly four hours, until I was able to get hold of Miss Hunter. The old woman got on my nerves frightfully before she left. But Frances was naturally very much moved by the housekeeper's news, and insisted I keep her here until she could get to the laboratory."

"What time did the girl reach here?"

"Oh, I didn't notice. About an hour ago. What time is it now?"

"It was almost midnight when I took off my watch," said the chemist. "Did Miss Hunter tell you what was in the envelope?"

"No," said Erickson, again with the overtone that

Lempereur had come to connect with the physicist's mention of the younger Richmond. "She took it and went into that office. At least Mrs. Mulcahy left then, and I was able to work without being disturbed by her snivelling."

The chemist stood considering the other for a moment, and then remarked:

"Don't let me interrupt you. I imagine I'd better find out what was in that message from Doctor Hunter to his niece."

Erickson, with something of relief, turned back to the machine in which he seemed to find a species of sanctuary. Lempereur swung on his heel and approached the door leading into Sidney Richmond's private share of the floor space.

The partition dividing the offices from the laboratory, as has been mentioned before, extended toward the roof no more than eight or ten feet. It was of a flimsy construction dating from the days of the mushroom aircraft company—a wall of boards nailed naked to the studs and covered with a hasty film of paint. The doors were of stock design, all alike the length of the partition, except for the name lettered on the glass panel that formed the upper half of each. Moreover, the rain was pounding on the corrugated iron overhead, and a person in the building had to raise his voice to make himself heard.

Lempereur put his hand up to knock upon the glass panel, and then lowered his knuckles without using them.

Frances Hunter's words came tumbling out in a vehement statement that had about it a flavor of desperation. The chemist could tell that the remark was

only one link in a long chain of argument; it sounded to him as though it must have gone on between the girl and Sidney Richmond for hours. A phrase came into his mind: "lover's quarrel." He rejected it with violence. He had been prejudiced against this poetry-writing young man ever since Hunter mentioned him; nothing the chemist had seen since had improved his opinion of Sidney Richmond. In the disagreement he was overhearing he found himself siding immediately with the girl.

"The laboratory *must* go on!" Frances declared. "I've told you so often how I feel. Can't you understand? If we stopped the work now, all my uncle's last years would be wasted. It would be a—a betrayal!"

Sidney's voice was no calmer than that of the girl.

"Oh, Francesca, Francesca!" he said. "Are there to be no mysteries left? What is the good of all this prying into the mechanism of the cosmic clock? We have gone too far already; we know everything—except how to be happy. 'These ears that hear all sounds save silence, These eyes that see so much but not the sky, These minds that gain all knowledge, but no calm.' Great God! Does it help us any to find out that the Delphic oracle used to be under the influence of laughing gas, or whatever your scientists think came out of the cleft at Delphos?"

"I don't believe it was nitrous oxide," said Frances, on a more practical plane.

"There you go!" Sidney almost shouted. "A beautiful girl like you—and you talk about *nitrous oxide*! Do you suppose any one is going to love you for the facts you *know*? Never!"

"Not for this do I love thee, but because
Infinity upon thee broods,
And thou art full of whispers
And of shadows.
Thou meanest what the sea has striven to say
So long, and yearned up the cliffs to tell . . ."

"I can't quote poetry," the girl interrupted, "and anyway, all that seems beside the point. But I do think my uncle was doing valuable work, and I do think it must go on."

"Read Masfield's *Dauber*," Sidney advised her, "and you'll find out that it's the search for Beauty that must go on, not playing Peeping Tom to the Universe. That machine out there is a rank obscenity!"

"You can say what you like. We *will* go on with the investigations."

"My brother won't give any more money, now that your uncle is no longer directing the work."

"Of course he will," said Frances, but the intonation was less certain than the words.

"Who is able to take your uncle's place?"

"No one, really, of course. But my uncle had great hopes for Hugo——"

"You don't think *Doctor* Erickson will be able to direct the experiments as your uncle did?"

"Perhaps not right away; but Uncle John dictated most of his material to me and I can help him——"

"*Tiens!*" exclaimed Sidney Richmond, in such scorn that it withered the conversation.

Lempereur, almost as annoyed as he guessed the girl to be, put up his hand and rapped sharply on the glass.

"*Entrez, monsieur le docteur!*" cried the young

man. Lempereur complied, and Sidney said over his shoulder, "Oh, I thought it was Erickson."

The chemist looked around the office, which he had not entered before, with complete astonishment. The younger Richmond had attended to his own furnishing, and his decorative ideas were at the opposite pole from those dressing the bare workrooms of his scientific associates.* Heavy monk's cloth curtains concealed the boards of the walls, draped around the closet in the corner, and were drawn across the windows at the end. Strips of this fabric had been stretched across the top of the partition, to exclude most of the glare of the ceiling lights in the outer building. Low table and stand lamps burned in soft-colored shades. By the light of these, Lempereur could make out white squares of etchings on the walls, the glint of gold on the brown-calf bindings of many books in the shelves by the door, the reds and blues of the deep-piled Persian rug that covered all the concrete floor.

Against the wall separating this extraordinary spot from Hunter's office was the most unexpected object of all—a fireplace containing either real coal burning in a grate, or else an almost perfect electric imitation of it. Before this, in deep easy chairs, sat Sidney Richmond, with his back to the door, and Frances Hunter, facing the chemist as he entered.

The whole picture, except for the girl, made an exceedingly poor impression on Lempereur. No desk, no work bench. At Richmond's elbow was a taboret, and on the taboret was a stack of manuscript, a siphon, tall glasses, and a cutglass decanter giving

* Refer to diagram, page 62.

off the amber glow of whiskey. The chemist, in his youth a more than moderate drinker, had not touched spirits for years and in consequence had come to take a Puritan attitude toward drinking. He regarded alcohol as he did tobacco; a drug which decreased a person's sensitivity of perception. He was not pleased to find Frances in this setting. The ultimate reason for his distaste came to him the minute he entered the room; there was an unmistakable smell of incense in the air.

He looked sternly at Sidney Richmond. The youth lay at full length in his chair, collar flung back at the throat, his handsome face expressing careless indolence. The chemist wondered if the gentle waves in that flowing mass of hair were natural. The young pup certainly has fixed himself up to look like a nineteenth-century poet, reflected Lempereur.

Frances Hunter rose when the chemist came in, and after an appreciable interval, Richmond also got to his feet.

"May I offer you a drink, Mr. Lempereur?" he said, in a voice that impressed the chemist as containing a faint mockery.

"Thank you," answered the older man, coldly, "I do not drink." He looked at the girl, and said more gently, "Doctor Erickson tells me a message from your uncle to you has been found. Has it any bearing on the papers that are missing? Does it offer us any clue——"

"It is entirely personal," said Frances.

"In that case, of course——" Lempereur said.

"But I'd like you to read it." The young woman reached down into the chair in which she had been

sitting, lifted a sheet of paper, and handed it to the chemist. He held it to the light, and saw four short paragraphs in his dead friend's writing. It was dated a month before the physicist died, and only said:

MY DEAR:

You will find this note among my effects. I cannot tell you how I regret being forced to leave your care in other hands than mine; but how glad I am that I can put you, before I go, in such honest and competent hands.

You do not know so well my old friend, Theodore Lempereur, because in the last few years we have both become such busy men that we have seen all too little of each other. His guidance will be more skillful than mine ever was, and when he comes to know your dear character, I am sure his interest will be as tender and affectionate as mine.

Anything he says you can accept as the truth, for he is incapable of indirection.

You are a grown woman now, and so need no "guardian," but from time to time you may need the counsel which I so long to continue to give you, and cannot.

Farewell,

JOHN HUNTER.

When the chemist had finished reading this message, he handed it back to the girl without a word. He was more moved by it than he would have been willing to admit. He covered this weakness from himself by substituting a disappointment that it had nothing to do with the problem upon which he was at work.

John Gregory Hunter was dead. How he had died, Lempereur did not know. Hunter's notes had disappeared; why, or to where, was still unanswered. Brill-Jones was missing; the question of where he had been taken, for what reason, whether he were alive or dead, remained mysteries.

"Thank you for letting me see that," said the chemist, gruffly. He turned on his heel, feeling the atmosphere of Sidney Richmond's study pestilential. As he walked into the outer laboratory he observed that Winfield Richmond had been added to this extraordinary midnight gathering. The elder brother was talking, with a worried expression, to Erickson. When he saw Lempereur, he swung his plump body about and ambled toward the chemist.

"I say," he said, on a plaintive note, above the din on the roof. "What's all this about Doctor Hunter's being poisoned? Do you think he was? Is it correct that the janitor did it?"

Just as Drake's lack of discretion had caused the president of the Catalyst Club to curse at an earlier stage of the investigation, so he now damned Bulger's loquacity.

"I can't say," answered Lempereur.

"Because," went on Richmond, coming up close to the other and seizing the lapel of his coat, "this is serious. Your friend says that the janitor put some kind of poisonous radium compound in Doctor Hunter's water, and killed him, and that you are hot on the trail of the janitor."

"My associate," said Lempereur, "is often a scatter-brained theorist. He states as facts what are frequently no more than hypotheses, and wild ones at that."

"Well, if anything like that has happened, I ought to be told. If Hunter was poisoned—why, my God, we might all have been poisoned. In the drinking water! That's terrible! Do you think it was only put in Doctor Hunter's carafe? Or was it put in

that drinking fountain over there, the one we all used?"

"I tell you," said the chemist, "that the whole matter is still one for conjecture. We know that your janitor drank some stuff labelled 'radium water.' We don't know that he gave it to any one else, or even that it was toxic."

"I drank a lot of water out of that cooler," Winfield Richmond announced tragically. "How would I know if I had got some of the stuff that killed Doctor Hunter?"

"If my friend actually was poisoned," said Lempereur, "and if you also had taken some of the unknown substance into your system, the first symptom would probably be anæmia. That was Hunter's first symptom. Are you anæmic?"

"My God. I don't know. I may be. I can tell you I don't feel very well. Since Mr. Bulger telephoned, I've been feeling terrible."

The chemist turned to Sidney Richmond and the girl, both of whom had been brought out of the former's office by Winfield's complaint.

"Do either of you happen to have had a blood-count taken lately? Do you know whether you are at all anæmic?"

"No," said Sidney, stoutly, "I haven't; but I can assure you I never felt better in my life."

"I'm sure my count is normal," said Frances.

"Where did you get most of the water you drink while in the laboratory?"

"I drink very little water," Sidney announced, with a malicious look toward Lempereur.

"I don't know," the girl said, "mostly from the

cooler. Quite often from my uncle's carafe—the one you took away.”

During this conversation Hugo Erickson had approached. He now spoke quietly.

“I have a slight secondary anæmia, if that fact is of interest to you, Mr. Lempereur.”

“You have?” demanded the chemist.

“Yes. It turned up in an insurance physical examination I had about two weeks ago. It's not serious.”

Lempereur scanned the pale scarred face intently.

“Where do you get your water?” he asked.

“I have my own bottle, which I fill from the cooler.”

“Do you drink much?”

“Oh, yes. I have observed that I function much more efficiently when I give myself plenty of water.”

The chemist paused in the stride of his investigation, debating the weight of these new factors in the case.

“He seemed such an inoffensive little man,” Winfield said plaintively. “And to think I gave him two hundred dollars—bonus!”

Lempereur paid no attention to the elder brother, but remarked at last:

“I should like to make a hasty examination of your office, Doctor Erickson. And of yours, Mr. Winfield Richmond. I also wish to commandeer for the time being Doctor Erickson's water bottle, and that cooler, if some of you will help me get it into my car.”

“He does think we've been poisoned!” the elder Richmond observed in a funereal tone. “Your uncle didn't suffer much *pain*, toward—toward the end, did he, Frances?”

The big chemist did not hear the answer Frances gave, for he had become conscious that it was late, and he hurried over to the door marked "Dr. Hugo C. Erickson." The young physicist followed him, and pointed out the water bottle. It stood on his desk, at the right as one entered, amid a litter of papers. It was of white glass, with a tinge of brown, and it was about half full of water. Lempereur worked out a makeshift container for it, and turned his attention to the rest of the office.

The simple furnishings of the room as a whole strongly suggested Hunter's, except that Erickson's was more untidy, the desk was against the wall, and there was no safe.* The chemist spent some fifteen minutes inspecting it, without making any observations that pleased or startled him, and then spent another five in Winfield Richmond's corner office, with even fewer results.

Once Frances Hunter interrupted to say that she was going back to Marin County. Lempereur was too preoccupied to do more than acknowledge this with an affirmative grunt; it was not until he came out into the laboratory that he learned from Erickson that Sidney Richmond had taken the girl home, and that Winfield had also left. Erickson was waiting to lock up after the chemist. The two men together carried the water cooler out to the car, through a still relentless down-pour, and Lempereur drove back to his own laboratories, his mind full of dismal conjectures.

He walked wearily up the three flights, with the young physicist's water bottle in a carton under his arm, went into the criminological room, and powdered

*See diagram, page 62.

the bottle for fingerprints. They were abundant, and all Erickson's, as he proved by a comparison with the inked prints he had already taken.

It was nearly two in the morning. He went through the library and hall to his office, and saw upon his desk several memoranda. Methodically he put them in proper time sequences and read them, one after another.

T. M.: While you were away, Persen Drake called. He reported no developments. 1 A.M. K. G.

I tested the sheet of paper saying "Press Car" as soon as it reached here. No fingerprints. No blood (leuco malachite.). You will find it between glass on the bio-chem. record desk (it was pretty soggy). 1:20 A.M. K. G.

All tests we have been able to complete for poison in the Hunter specimens have been negative. Nothing more can be done on this until tomorrow afternoon at the earliest. I am going home. 1:35 A.M. K. G.

The most recent, and longest, memorandum he read with particular attention. It was from one of his youngest and most promising engineers. It ran:

DEAR MR. LEMPEREUR:

As directed, I went all over the city looking for bottles of "Hercu-vita Radium Water." Among the pharmacies that were still open, four carried this product. I bought three samples at each store (forty-five cents apiece), and in at least one the bottles had been six months in stock. The druggist assured me that I would find them "just as strong as ever." He was quite right. I brought them back to the lab—and not one of them has the slightest trace of radio-activity in it. In other words, "Hercu-vita" is an out-and-out fake, containing, as far as I can determine, nothing but plain tap-water.

However, I cannot help adding a note as to a curious factor

in connection with this test and those being made in the bio-chem. room. Some of the viscera they're working on recall to me a duodenum in the same condition. About two years ago, a clinic patient was being treated with radium needles. One of them went adrift in the tissues and was not found until the patient died. When the man I was then working for investigated, he decided that gamma-rays, presumably from the lost needle, had caused just such a necrosis.

I think you should seriously consider the possibility that Doctor Hunter died of radium poisoning. It couldn't have been caused by "Hercu-vita." The question is, I imagine, where did it come from?

DON INGALLS.

Lempereur let the sheet flutter to the desk-top. He shut his eyes, put up his hand and squeezed his forehead until his skull ached.

"Yes," he said aloud, to the bright empty office and the black streaming window-panes. "The question is, where *did* it come from!"

He walked slowly to the leather couch by the wall and extended himself on it. His limbs felt leaden. Nothing more could be done tonight. He'd better get some sleep. Brill-Jones. Off there in the wind and rain and darkness. No developments. . . . That was the trouble, no developments anywhere. . . .

And Erickson, that pleasant young man, getting a secondary anæmia—as Hunter did—*when he starts to do the experiment that Hunter was working on just before he died.* . . .

SNATCH NOTE ASKS 20 G.!

Theodore Lempereur rolled over on his couch (far from a luxurious resting-place) and glanced at his left wrist.

It is to be noted that no man, on his own motion, looks at a watch to find out what time it is. This little recognized fact is proved by common observation; if you see a man consult his timepiece, and ask him the hour, he will almost invariably have to look again to tell you. He has not asked his watch: "What is the time?" He has put to it some such question as: "Have I time enough?" or "How long is it since dinner?" "Is it that early?" In these cases, the answer the watch gives him is "yes," or "no," not at all an accurate statement of time. Therefore, if you ask him what o'clock it is, he must repeat that same question to his watch before he can reply.

So Lempereur merely satisfied himself that he had slept some ninety minutes beyond his usual time of rising, and sat up.

Gray light was leaking through the windows of his office. Unreasonably enough, it was still raining. He could hear the muffled thump-thump of a floorbrush being plied in the adjoining office, that of Cameron, his oldest associate. The charwomen were late finishing. A trolley went by on Folsom Street, with a shak-

ing clatter. Everything, outwardly, was so damnably normal.

The chemist, feeling depressed, soiled and sour, went down to the street, started his drenched automobile with some difficulty, and drove to his club. After a shower, and breakfast, and a shave he felt better. He felt able to grasp firmly once more the problems of the disappearance of Brill-Jones, and the mystery of the death of John Hunter. He hoped something might "break," as Drake would say; but lacking such help, he had renewed confidence that he could bend the law of average chances in his favor.

However, something "broke."

When Lempereur returned to his office, he found his secretary sorting the mail. She had picked out one envelope, and was regarding it alertly. As he entered she turned.

"Good morning, Mr. Lempereur. This may, or may not be something that will interest you. It rather looks like one of the anonymous threatening letters you used to get. I haven't opened it."

The chemist studied the envelope, lying alone on his blotter. It was made of a cheaply glazed writing paper of the sort found in five-and-ten-cent-store stationery boxes. The postmark named Napa; the stamp had been cancelled at three p.m. on the previous afternoon. The address was written in pencil, in the labored hand of one just above illiteracy. As one would expect, Lempereur's name was not correctly spelled.

Holding down the envelope with a handkerchief wrapped around his fingers, the chemist carefully slit open the top, and extracted the contents with a pair

of tweezers he fetched forth from his desk drawer. At the first glance he gave the single sheet, he drew a great breath of relief. The period of inaction was at an end.

Beleive it or not [began the message] you owe us 20 grand, we have your freind and youll pay or well take it out of his hide. dont think you can follow us because we have the smartest way to collect you ever heard. go to the house at 283-B Natoma street and out in the proch behind youll find a crate of five pidgins. fassen 2 \$1000 to both legs of each pidgin (\$20,000) and let them go. well get the money and if not your freind will take a lot longer to die than Ike Bernbaum. we dont like your catt list club anyhow. yours truly.

There was no signature.

Lempereur read the message through twice, very carefully and deliberately. Then he let it fall to the blotter and began to erupt orders.

"As soon as Ingalls gets in," he told his secretary, "have him develop all the fingerprints on that sheet. Take care of it as if it were gold leaf. When he gets the prints I want classification numbers and photo-stats of them at once. If Mr. Bulger is here, he will take them to the Central Station Identification Bureau. If not, Ingalls will have to do so, saying he comes from me. I don't know who the author of that note is, but he's a professional, and he'll have a record at the Hall of Justice. In the meantime, call Crocker and Co., and tell them I want twenty one-thousand-dollar notes. Suggest the sub-treasury, if they can't think where to get them. Tell them the security will be put up half by me and half by Mr. Leonard Sloat. When Bulger and Drake call, tell them to come in at once, but tell them nothing else. If the police or the

F. B. I. telephones, we know nothing yet. Be sure of that, now! Of course, tell the newspapers absolutely nothing. Warn Ingalls, by the way, if I don't see him."

The secretary said, "Yes," somewhat breathlessly, and hurried to her desk. The chemist seized upon the telephone at his elbow.

"Good morning!" said the voice of Miss Smiley, announcing by the eternal sunshine in it that she was not to be dismayed by a little rainstorm.

"Good morning," snapped Lempereur. "Get me Mr. Leonard Sloat, immediately."

"You know," announced Miss Smiley, sounding as though she were in a talkative mood today, "Mr. Sloat won't be up. Shall I——"

"Yes!" the chemist said, so sharply that he heard no more from his switchboard girl. He held the wire, and after considerable delay, he was aware of Len Sloat's hoarse whisper at the far end.

"Is that you, T. M.? Is it possible that you are so inconsiderate as to wake me up out of a sound sleep? It's barely nine o'clock. *Why* do you do such things?"

"I'm taking ten thousand dollars out of your brokerage account. I just want to make sure you'll approve it if they call you."

"Here! Wait a minute! *Ten thousand dollars?* What for?"

Lempereur read the ransom note.

"Gad!" croaked Sloat. "Gad!"

"With such an unprecedented method of getting the money to the kidnappers——" began the chemist.

"Not in the least unprecedented, T. M.," the old

lawyer contradicted him. "Fairly new, but it's been used before. Captain John Ayres, of the New York Missing Persons Bureau, reports three cases that came under his observation.* However it's not as simple a matter as you might think to follow those pigeons, and here's where the teaching of experience can be of great value. Historical parallel again, T. M."

"Have they been followed successfully before?" broke in Lempereur.

"Not to my knowledge," replied Sloat. "But by observing the pitfalls into which the New York police fell, and avoiding them, you may well be able to do so."

"I assume an airplane is necessary," the chemist said.

"Yes, but not any old aeroplane," warned the hoarse voice. "That was the mistake made in the case of Henry Levy, the John Street jeweller, who was kidnapped and murdered in New York.* The police used a four-seater—a big, heavy machine, loaded with pilots, pigeon experts, and what-not. It was too cumbersome. You must use a very light, manœuvrable aeroplane, or you'll lose your birds."

"Is that all that's necessary?"

"No. The birds must not be released in a flock, as was tried in one of the cases reported by Captain Ayres. Let them go one at a time, and with a long, brightly colored ribbon attached to one leg of each bird, to help the observer in the aeroplane. Orange

**Missing Men*, by Capt. John H. Ayres and Carol Bird (Garden City, N. Y., 1932).

**Ibid.*, p. 278, also p. 34, *et seq.*

seems the best color. Are the birds carrier pigeons or racing pigeons?"

"How could I know?" asked Lempereur, a trifle huffily. "The note says 'pidgins.' I've only just received it. I've not had a chance to go to the address given. There may be none there at all."

"Let's hope they're racing birds," said Sloat. "Homing pigeons will stop on the way. In the Levy case, one was found on the roof of a barn, which couldn't be its home, three hours after it was released. If these are racing pigeons, and if you let them go one at a time, and get the aeroplane off the ground beforehand—well, with five birds it seems to me you have a very good chance of following all the way to where our friend is being held. Of course, you need good visibility."

The chemist glanced out in the downpour.

"We don't have good visibility. It's raining cats and dogs; and a low ceiling to boot."

"Perhaps we should wait until it clears."

"I won't do that," announced the chemist with decision. "It might be several days. We can't wait that long."

"I agree with you," said Sloat, and it was a tribute to the feeling that Brill-Jones had inspired in them all that in this emergency no member of the Catalyst Club was willing to wait an extra moment. "But, T. M., I must warn you not to get up your hopes. Levy was found floating off Glen Cove, strangled and shot to death. That is often the way with these extortion attempts; the modern gangster kills before he asks for ransom; he won't be bothered with the care of a prisoner. I take a pessimistic view of this matter."

"You believe it worth sending the money?"

"Oh, of course. I would risk a good deal against heavy odds to save that poor innocent. But put a slip of paper with the bills offering a reward for return if the bird doesn't get home."

"This visibility matter worries me," said the chemist, deliberately changing the subject. "What if the airplane can't follow clean through and identify the homecote of one of these birds?"

"That's the chance we are taking. I've told you all I know. Don't waste time, and Godspeed to us!"

Lempereur rose from his desk. As he left the office he said to his secretary:

"Get out the encyclopedia on pigeons. If it doesn't give a clear distinction between racing and homing pigeons, go to the public library and get me a book on birds which will. I expect to be back within a half-hour."

The engine of his car was still hot, and started willingly enough. The chemist drove to Natoma Street, and peering for numbers through the rain, found 283-B within a few blocks of his own building. It was an unsavory-looking structure, in an unsavory neighborhood. He got out, raised an umbrella, and went and beat upon the door. The house appeared to be a double one; the entrance in which he was interested seemed to give into the lower half.

After he had pounded for some time, a window was raised in the upper story. A slatternly middle-aged woman, with ambiguous sores about her mouth, put her face out and asked the chemist what the hell he wanted. Lempereur told her he was after the occupants of 283-B. The woman, looking down upon him

furtively and critically, said they had "gone away." The chemist thanked her, making a mental note that she would be a good person to throw to the police for a thorough questioning, and tried the door. It was not locked.

Lempereur meticulously lowered and folded his umbrella, and with no other weapon than this and his powerful physique, marched down a hallway that had not seen a ray of sunlight since it was built. He glanced into three rooms giving off of it, and saw them to be bare, dirty, and unfurnished. At the end of the corridor was a closed door. He opened it, and found himself in a tiny court, under the sheer back wall of a factory or warehouse. He was under a narrow roof, which might be called a porch. In a crate supported on a box at his left were five dejected-looking pigeons.

Some befouled chick feed lay on the bottom of the box, but a tin can obviously adapted to hold water was empty. Lempereur fished it from between the slats, filled it from a broken gutterpipe, and returned it. The birds drank greedily.

Allowing them only a few seconds, the chemist picked up the crate and carried it to his automobile. On the way back to the laboratories, he scanned the sky anxiously. Less rain was falling, perhaps, but the clouds were very low.

The team of Bulger and Drake was sitting in gloomy silence on his couch when he reached the office. The stout salesman's face lighted when he saw the contents of the crate.

"Homing pigeons!" he exclaimed. "What are you doing with them?"

"Do you know anything about pigeons?" asked Lempereur, sharply.

"Do I know anything about pigeons!" echoed Bulger. "I used to race 'em when I was a kid."

"Is there anything you haven't done in your time, man and boy?" asked the reporter.

"Are these carriers? Or racers? Quick. It's important," the chemist asked him.

Bulger peered through the slats.

"They're all one breed, you know. It's just the training, and some time the trimming, that's different. I should say those were racers. What's it all about, T. M.? Your secretary is as talkative as an abalone this morning."

"Let's hope they're racers," said Lempereur, and sat down to the telephone. "Get me the airport, Miss Smiley."

"Come clean, T. M.," insisted Drake. "What's broken?"

"If you can, for once, both of you, be discreet for a few hours, I'll tell you," said the chemist. They agreed, and, not without doubt, he revealed the contents of the note.

In the middle of the recital, he found himself connected with the administration building at Mills Field.

He said he wished to charter a two-seater plane, suitable for sky-writing, for the day. The pilot must have a transport license.

"For sky-writing? In this weather?" came back the incredulous voice.

"I'm not going to do any sky-writing. But it must

be as manœuvrable as that. And it must throttle down to—Bulger, how fast can one of those birds go?—say forty or fifty miles an hour.”

A conference took place at the other end, during which the chemist continued to inform his associates of the new development. At long last, the airport said it had no such equipment available.

Lempereur had to call the Alameda, and finally the Oakland Field, before he found what he wanted in the way of a ship, and a pilot willing to undertake flying in the storm. They said that in the East Bay the rain had stopped for the moment. Low ceiling, but reasonable visibility.

“I’ll be there within two hours at the outside,” the chemist said, and hung up.

“What’s the idea, T. M.? What are you going to do?”

“Come along, if you wish, and I’ll show you.”

“Do we wish!” said Drake, and the three men started out together.

Fortunately, and somewhat to his surprise, the chemist was little delayed in collecting the twenty one-thousand-dollar bills. They were fresh and clean, looking as though they had circulated not at all. Lempereur, as he made a note of the numbers, put an almost invisible dot of ink on each and put them in his wallet, wondered how the kidnappers proposed to change them. Before leaving the city, he bought a roll of half-inch orange ribbon and one of copper wire, the most secure fastening he could think of for the pigeons’ unusual cargo.

On the ferry crossing the Bay, he leaned back from the driver’s seat of his sedan and outlined to Bulger

and Drake (who sat in the tonneau with the crate concealed between them) the scheme he had in mind.

"I hope," he said, "to make the best possible use of this thread the kidnappers have given us to follow. I hope to be able to follow at least one of the birds all the way. If we are not that successful, I have a plan which may nevertheless lead us to where our friend is, or at least to where his abductors are. I shall take off from the Oakland airport with the crate of pigeons in the plane, less one bird left on the ground for you to release after we are in the air. We shall follow that first bird as far as we can. Both the pilot and I will attempt to keep him in sight; but at the same time, I shall try to keep track, on a map, just what direction we are taking. Hitherto, apparently, in cases like these, all birds have been released from the same place; but after we have lost the first bird, we will land at the nearest field, instead of coming back, and begin with number two bird at this new starting point. So, even if we can't reach the actual objective, at the end of the fifth flight we may find converging lines on the map. These lines can be projected to intersect over the spot we are looking for, or at least near it."

"The idea is swell," said Drake, "only you ought to stay here and let me go. At the end of each flight, I can telephone our route back to you from wherever we land. In that way you'll be able to chart the whole thing quietly in the airport administration building, and when it comes time to act, you won't be all the hell off in Nevada, or somewhere, as I might be."

"I can see no advantage in that," said the chemist, and went on to discuss other factors in the case.

At the Oakland airport they found a small, red, open-cockpit biplane percolating gently on the concrete runway under the ministrations of two mechanics. A mystified young pilot, who impressed himself largely on Lempereur because of the waxed ends of his small mustache, was also waiting. The chemist explained what he wished to do; the pilot looked quizzically at the sky. It was not raining, but the "ceiling" was low and unbroken. Drake, increasingly disgusted at not being allowed to go, went over and peered into the front cockpit of the plane. He gave a shout immediately.

"Why, this job has a two-way radio! Does it work?"

The pilot informed him that it did.

"Look here, T. M., that settles it," the reporter said urgently.

"Settles what?" said the chemist, his mind on other matters.

"You got to let me go. It would be crazy to do anything else. You stay here, with a big chart on the table and the headphones over your ears. I'll tell you every few minutes just what direction we're heading, or what town we're over. I can keep my eyes on the bird all the time, and won't have to risk losing him while I'm looking down to mark a map. It's the only logical thing. Then, the minute you decide it's time to bring in the cops, here you are, right next to headquarters."

Lempereur regarded his young associate hesitatingly.

"Come on, T. M. There's no other possibility. I've had all sorts of experience with two-way radio sets—I had one in the car I used running around the Embar-

cadero during the general strike. I'll give you just what you need."

Drake eventually had his way. Lempereur's instinct was to direct. He had no fear of aircraft, and none of Sloat's passionate aversion to physical activity, but he preferred deductive thinking to head-long activity. With Drake aloft, tied to the end of a radio short wave, the chemist could control the movements of the plane as precisely as though he were in the cockpit. Beyond that, he would be far better able to lay out, on a large, motionless map, the pattern of lines that he hoped would draw together over their goal.

Drake climbed elatedly into a borrowed flying suit and a helmet with earphones under the flaps. In a small office in the main building, Lempereur and Bulger made fast the bills, reward notices and ribbons to the legs of the pigeons, and returned four to a basket that promised to take up less room in Drake's section than the crate.

The pilot, still dubious, but distinctly interested, "gunned" his motor against the chocks. The red ship shuddered and squatted against the spring of the tail skid. Drake scrambled into the forward cockpit, grinning like an ape. Lempereur handed him the basket.

"Now, listen to me," the chemist counselled, "after you're in the air, first test your radio. Then stay low over the field until you see us release the bird. Don't forget, Bulger says they always circle for direction first, so be ready to follow. Then hang on the pigeon's course, and keep in touch with me. I'll tell you what to do."

Drake and the pilot nodded, Lempereur waved them

away. The mechanics jerked out the blocks under the wheels, and the bright-colored craft taxied off to the far end of the runway. The chemist went into the radio room; but Bulger remained outside, under the gray skies and the buffets of the west wind. His face was longer than normal; this was nothing like his favorite flying weather. Anyhow, at least the pilot took his ship into the gusty air pretty handy. That young fool of a reporter was shot with luck. He'd come back all right. . . .

The red plane roared around overhead, and Bulger saw with comfort the confident waggle of wing tips with which the pilot saluted as he passed. Lempereur, the first bird under his arm, emerged from the administration building.

"Give me a minute," he said, "and then release it."

Through the window, Bulger saw the chemist adjust headphones and with open fountain pen lean over a white square on the radio operator's table. The man outside tossed the pigeon into the air, followed the orange flutter with his eyes as it went in one great sweep out over the water of the Bay, watched the red ship in close pursuit. Then he went indoors.

"Yes, I hear you perfectly plainly," Lempereur was saying. "Stick close. I'm listening." He nodded to the radio man, and the latter threw the switch to receiving. . . .

The first bird did them no good whatsoever. It seemed to take the red biplane for a hawk, and dodged about over the East Bay cities at a low level, eventually disappearing among the buildings. The pilot, who had been hard put to stay below the clouds, and above the legal altitude for planes over thickly

settled areas, and still keep within eyeshot of the pigeon, brought his craft down almost on the streaks that his tires had left during the takeoff.

Drake handed out another bird, and the procedure was repeated. This time, however, the perverse guide "towered" like a wounded partridge—went straight up through the clouds and headed eastward above them. The plane followed, at a greater distance. Drake could only report direction; he could see nothing of the earth. The bird at last dropped into the smother and was lost. Drake reported that they were mushing down blind, hoping not to hit Mount Diablo; then that they were landing at Livermore, and would release another pigeon from that field.

Number three circled and went almost directly north, alighting on the ridge of a ranchhouse near Vacaville. It became involved with a flock of its own kind, and showed no inclination to go on. The plane circled for half an hour before a low gas supply forced abandonment of this loiterer. Lempereur, biting his lip in bewilderment over these two courses, ordered them to go to Sacramento, and release number four.

This bird, further to confuse the issue, headed northwest. Drake reported himself over Woodland, then over a village called Brooks, then squeezing between the clouds and the foothills of the Coast Range. The bird was winging strongly for the Pacific Ocean, when Lempereur suddenly ceased to be able to hear Drake's signals. The cheerfully mocking voice stopped as though cut off with a cleaver; there was no preliminary fading.

The Oakland radio operator took back his microphone and tried to get the plane with no results. Bul-

ger hovered anxiously over his shoulder. Lempereur, no less anxiously studied the map which he had been marking. It seemed to make absolutely no sense.

For a good hour the man at the sending set tried to connect. No answer came back.

"That doesn't matter," said Bulger, as one who whistles to keep up his courage. "He'll telephone as soon as they land."

But the reporter did not, and another hour passed.

The two men, staring out over the water-soaked field, had little to say. But once the chemist remarked bitterly:

"Another time I'd know enough to have a small plane trail the bird, and a large plane follow the first one."

Around two o'clock the radio man gave up; the ship would have been long out of gas by that time, he announced. Somewhat later, the weather breaking for the better, a couple of searching planes started out from Oakland, one from San Francisco, and one from Sacramento.

By late afternoon, ten or a dozen craft were working up and down the Coast Range to the northwestward of Sacramento. By dark, none of them had seen any signs of the vanished red biplane.

If it had crashed, no one reported hearing or seeing it strike the ground.

The plane, the pilot, and "Buzz" Drake, had disappeared as completely as Cyriak Brill-Jones.

VOICE FROM GRAVE TELLS ALL!

"*The San Francisco Star*," observed Leonard Sloat, waving his glass in the direction of the table piled high with newspapers, "undertakes to name the kid-nappers."

Lempereur was striding diagonally back and forth across the room, his hands deep in his trousers pockets, his square shoulders stiffly braced, an expression of baffled anger on his ruddy face.

"*The Star!*" he exclaimed. "Everywhere you turn in this case you run into *The Star!* *The Star* informed me I was investigating John Hunter's death before I knew it myself! A *Star* reporter 'covers' the kidnapping of Brill-Jones from the actual car in which he was abducted—in fact, it looks as if a *Star* automobile had been used in the crime. Now you say, after we have been unable to work it out in spite of our special knowledge, that *The Star* tells us who committed the abduction!"

The four remaining members of the Catalyst Club were meeting in extraordinary session in the library of Leonard Sloat. The globular body of the Club's oldest, shortest, and heaviest member filled the hollow of the armchair from which he could so rarely be persuaded to move. His gouty foot was extended before him on the specially padded footstool that Lempereur almost struck on each striding passage

across the room. His bullfrog appearance and hoarse voice were the same as they had always been since the organization of the Club.

Unchanged, too, were the high surrounding walls of the library, panelled to the ceiling with the varicolored bindings of the old lawyer's unique library on crime; the twelve green filing cabinets in which lay fifty years of sensational newspaper clippings; the coal fire in the grate; the paraphernalia of Sloat's frequent refreshment.

Changed, however, was the spirit of the men meeting here on the night after Persen Drake had vanished into the thin air that sometimes holds up an airplane, and the second night after Brill-Jones had preceded him into the unknown. MacCarden, sitting in a corner with his great hands clasped over his knees, looked worried as well as sorrowful. Bulger, for the first time in the memory of those present, seemed plunged into what could only be described as melancholy. His round face, usually the mirror of good-nature and rough humor, had been growing older and more downcast ever since the reporter's voice over the radio had been stilled.

"*The Star* claims they have it on 'unquestionable authority!'" said Sloat.

"Who do they say did the kidnapping?" Lempereur snapped, as he made a turn and started back.

"Sit down, T. M.," Sloat protested. "You're changing a gentleman's library into a tiger's cage. Or a bear pit. Stop galloping back and forth like that. You make me dizzy."

"If you're dizzy," said the chemist, eyeing his associate's highball (the third since Lempereur's arrival),

"it's not because I'm walking in front of you. Who does *The Star* say is responsible?"

"Our old friends, 'Pat and Mike' Collighan," Sloat answered, with a benign gesture of toasting his critic.

The chemist drew up short.

"You know," he said, "that's a very plausible idea."

"Plausible's no word," said Sloat, "probable is the term you want. Highly probable. If you don't realize it, I commend you to that dossier of clippings from *The Star*. They began this business."

"You're right," agreed Lempereur. "By all that's holy, on the very day John Hunter died, *The Star* printed the story of the Collighan acquittal. They quoted the District Attorney as saying that our organization played a decisive part in collecting the evidence against the Collighans. It all ties in: 'Believe it or not you owe us twenty grand.' Their defense must have cost them all of that."

"Cheap at twice the price," Sloat said, dryly, "with two jurors immovable for acquittal, in the face of *that* evidence."

"And *The Star* was running a sob-sister version of their biographies. You are supposed to be our chief synthesist. You tell us how the pieces of the puzzle fit together."

"I can't see yet," said the old attorney, "but the paper has suddenly stopped printing the white-washed story of their misspent lives. Yesterday only carried them through their first term in San Quentin. No installment today."

"Well, assume it is the Collighans? What is our next step? Here we've wasted another day, and lost a

second member of the Club into the bargain, and we're no closer to a solution of what has happened to Brill-Jones than we were last night. We are no further than the bus station at Napa Junction."

Bulger injected a gloomy voice into the duologue:

"I suppose that Napa postmark on the ransom note doesn't mean that they must have gone north from the 'Y'?"

"No," the chemist told him. "Letters posted at the junction are sent into Napa for cancellation. Thanks to Drake's investigations, the assumption is clear that one of the kidnappers wrote the note in the service station where *The Star* reporter was shot, and mailed it later at the 'Y.' From that point they may have gone in any direction, and those damned pigeons——!" Words failed Lempereur.

"I guess they were homers, after all, not racers," said Bulger.

"Homers!" Lempereur snorted. "Look at that map! Four birds—four different directions—at right angles to one another. I should think they must have been absolutely untamed."

"Maybe they were trained badly, or kept too long in the city," Bulger defended his reputation as expert-without-portfolio; but he did so with little heart.

"You'd think even the Collighans would be more careful with \$20,000," sighed Sloat. He washed down the thought with a gulp of Scotch and soda, and added, "Newt Bulger, for God's sake pour yourself a drink! You're as cheerful as a corpse, that's what you are. I've never seen any of you like this. You three men will drive me crazy."

Bulger, generally not backward in accepting such

an invitation, this evening made no movement to reduce his host's stock of spirits. He continued to stare into the fire, and his round face had grown so long as almost to justify the description "haggard."

"I should have gone in that plane," he said simply. "Buzz is such a damned fool; he probably insisted the pilot take chances trying to follow the pigeon——"

"*You* should have gone!" growled Lempereur, swinging on him. "You mean, *I* should. Drake persuaded me against my better judgment to let him go; I might have known he'd probably bring our plans, and himself, to smash."

To the amazement of Sloat, and the pity of MacCarden, Newton Bulger now sprang to his feet and faced the chemist belligerently. In the history of the Catalyst Club were innumerable unrecorded instances where the lawyer and doctor took exception to Lempereur's blunt explosions. Bulger, however, together with the missing reporter, had always acted in the past as good-natured arbitrators between their more serious elders.

"I won't let you say things like that about him," declared Bulger, and his voice was not steady. "Buzz Drake was—is one of the most valuable members of this Club——"

Lempereur was as startled as MacCarden and Sloat. He looked piercingly at Bulger for an instant, and then stepped over to him.

"Of course," he said, and cleared his throat harshly. "You know I don't mean that. I think of the boy as one of my own sons." For a fraction of a second he laid a square hand on the point of the other's shoulder, and then took it hastily away.

"I have no sons," said Bulger, with the same simplicity. There was a moment of awkward silence. Then Sloat sputtered, and Doctor MacCarden spoke from the corner in his deep voice:

"Losh, the lad will turn up. He is a rare one for luck. It's no failed him yet."

"Yes," agreed Sloat, hurriedly. "We can't do any more about that until daybreak tomorrow. All we can do tonight is attempt to trace Brill-Jones. It may be that the two disappearances are somehow linked. If we solve one, we might find we have also solved the other."

"By all means," the chemist said, "let's get on with an analysis; and if possible, a synthesis, of the evidence."

"How about fingerprints on the ransom note?" asked the old lawyer.

"Bad," Lempereur answered. "We tried both silver nitrate and iodine vapor methods, and did develop some latent prints. But the paper was cheap wood-pulp, rough and hairy, and thus prevented any really satisfactory results. Now that we have the names of the Collighans, as two suspects, it might be possible to say whether or not one of them has handled the note. But to find an unidentified person by means of them—quite out of the question."

"At the moment," reflected Sloat, "the case has become pure police work. There should be some trace of that car. From Napa Junction it must have gone miles across country. It's odd we have no report beyond that point."

"The police may turn up some one who has seen it.

The State police have agreed to call me here at once if they find anything," said the chemist.

"I must admit," Sloat went on, "that I find it comforting there has been no report. Early findings in cases like these are likely to be unpleasant. You know our friend Cy Brill-Jones. He has no appreciation of reality. It's the grace of God if he didn't suddenly decide that the whole business of being kidnapped was outrageous, and a gross imposition, and that he had no time to waste being kidnapped anyway. It's in character. Then he'd do something impulsive and, under the circumstances, indiscreet, such as call out to a policeman they passed. He evidently didn't do anything like that or the chances are we would know all about it, and his body would be on its way back to the city."

"That is another part of the problem on which we shall have to wait," said the chemist.

"What about the F. B. I.?" Sloat asked. "I see by *The Star* that the 'G-men' have swung into action."

"They have taken up the chase, but they seem to have less information than we. I have a good friend in the local headquarters. He got in touch with me, and I started them off at the 'Y.' I believe they've thrown out men from there in both main directions. They are very deliberate workers, and have no personal reasons to be in a hurry in this case as we have. Unless they get a tip where Brill-Jones has been taken, they may be some time finding out. They may be, from our point of view, too late."

"Then it's our business to supply the tip, I suppose," said the lawyer. "Assuming it's the Collighans,

we are dealing with veteran criminals, and not overly intelligent ones. It should be easy to find out all their usual associates, and the hide-outs to which they commonly turn when they need to 'cool off.' "

"Easy, but not quick," objected Lempereur. "It may not be the Collighans, and if it is, you can be sure that *The Star* has started the police and newspaper men on just such a course of investigation."

"We are getting nowhere," Sloat said, with decision, as he once more charged his glass. "We need a complete muster of the evidence, and a crystal-clear statement of the problem. Since you mention *The Star*, let us begin with that extraordinary element in the case. I find your acquaintance Abel Brander quite stimulating. Suppose you play for us the records of the two conversations you had with him. We may then be able to deduce to what extent *The Star* is red-handed. At the same time, I shall be able to decide how that newspaper stands legally, in the event we should wish to bring civil suit."

Before the retired attorney had finished speaking, Lempereur walked to the long table in the corner whereon were piled all the material evidence of the triple mystery. The third involving the death of John Hunter was represented by the various articles that the chemist had collected at the physics laboratory. The disappearance of Brill-Jones had produced the empty pigeon crate, the ransom note, and, lapping over into the last division, the Press-Car sticker, now dry and flattened under glass. The part played by *The San Francisco Star* was represented by two phonograph records, marked respectively "Conversation between T. M. L. and Mr. Abel Brander," and

"Second Conversation between T. M. L. and Brander," and by a suitcase-like box, which contained Lempereur's portable "play-back" machine.

The chemist opened the phonograph, set the turntable on the shaft, and the first record on the felt covering of the turntable, found an electric outlet in the baseboard, and plugged in the wire. After a few seconds, the four tubes began to glow. Lempereur tested the needle with his finger. There was a scratching sound, and then the voices of the chemist and the managing editor of *The Star* issued from the speaker.

Once again Brander made the proposal of "co-operation" between the Catalyst Club and his newspaper, and once again Lempereur heatedly rejected the proposal. When the click of the telephone receiver hitting the fork of the instrument ended the voices, the chemist walked to the machine and stopped it.

Sloat was rubbing his hands with satisfaction.

"Under the proper auspices, I'm sure that could be produced in evidence. One might argue that it was incompetent, irrelevant and immaterial, but it should impress the Court. Let me hear everything he said. Gad, he sounded worried when you told him the telephone was connected with a recording apparatus! Play the second conversation you had with him."

Lempereur took off the first record and substituted the other. The machine scratched, preliminary to producing the voices, and the chemist walked to a chair and sat down. He was tired. At every turn, negative results. He had tried several times to hear this record of his second fencing match with Brander, and for one reason or another had been unsuccessful. Now he found he was not really interested. He could

remember everything that had been said, and the talk seemed completely unconnected to the urgent need of tracking Brill-Jones and effecting his rescue. He leaned back in the chair and closed his eyes.

With the first syllables that spilled from the speaker, a cold prickling began on Lempereur's cheeks and behind his ears, and ran swiftly down to tingle over his chest and shoulder-blades. Neither he nor Brander was speaking. He had heard this voice once before, and he had thought never to hear it again. He recognized it immediately, in spite of the quality of desperate haste that quite transformed it, and the sibilance of words poured in a breathless whisper into the transmitter of a telephone, from a mouth almost touching it.

"Listen, Mr. Lempereur," began the message, "I hope to God you get this quick. This is Bernbaum, of *The Star*, speaking from Pinole——"

Even Sloat jerked forward in his chair, spilling half his whiskey on the rug. MacCarden sat up. Bulger jumped to his feet.

"How did that——" began the chemist.

"Keep quiet!" Sloat croaked.

The voice of the man now forever silenced hissed out of the machine into the stillness of the room.

"Listen, Mr. Lempereur! I got to square myself with you, see? And you got to help me and Mr. Brill-Jones out of this jam. I swear I didn't mean to get your friend into this tight spot. I haven't much time. The guy is outside writing a note. I guess it's to you; he asked me who would pay to get your friend out of a snatch. I told him I had to go to the can; he thinks I'm in there now. Listen, Mr. Lempereur, it hap-

pened this way. When *The Times* came out this morning with the story of the theft at Professor Hunter's laboratory, and says you were going to have an autopsy, the chief was sore as hell. He said the god-damned Catalysts had double-crossed us again, and you'd lied to him, and here *was* a crime story in the Hunter death after all, and *The Times* had it and we didn't, see? He said he'd bust the straight dope out of one of the members, if it took every man he had on the city staff. He sent a guy to tail you, and he told me to go out and get an interview with the secretary of the Club, Brill-Jones, and bring it back by the noon edition or I was fired. See? Well, I didn't see how I was going to get the dope out of him, but I thought maybe if I could take him out in my car he'd maybe listen to reason. So I beat it out of the city room. And there in the lobby, just going out, was Pat and Mike Collighan *——"

Lempereur rose to a standing position very gradually, so as to make no interruption, and walked over to place his ear within a couple of feet of the speaker.

"They'd been in the building all night," said Bernbaum's voice, "giving their life story to one of our guys who was ghosting it for them. I kind of had an idea it would be good to have a couple more men with me in the car when I talked to your friend, not to do anything, see? Just to be there. I've known the Col-

*The long and sordid chronicle of Arthur C. and James C. ("Pat and Mike") Collighan will be found in *Ten Thousand Public Enemies*, by Courtney Ryley Cooper. (Little, Brown, Boston, 1935.) The account includes an ingenious theory (with which, however, the present writer does not agree) attempting to explain why the Collighans risked kidnapping Brill-Jones, and reproduces in facsimile the ransom note received by Lempereur and given verbatim on p. 155 above.

lighan boys for a long time, so I says 'Come along,' and I bought them some breakfast, and they sort of slept in the back of my car while I picked up Mr. Brill-Jones. He got into the front seat with me and we drove off. Everything was nice and friendly, and I said to your friend that the Catalyst Club ought to play ball with *The Star*. I hadn't got the word out of my trap before one of the Collighans wakes up and leans forward and says: 'Say, is this one of those Catalyst Club guys?' And of course I never thought, and I said, 'Sure, he's the secretary and treasurer.' That seemed to hit the Collighans, and they whispered a while in the back seat. Then, before I could do a thing, one of the brothers sticks a rod in my back and made me drive to a place where no one would notice us change drivers. And they made me and Mr. Brill-Jones get in the back seat, with Pat between us, his hands under his coat, and a gun stuck in each of our guts. And I said, 'What the hell's the idea of your hi-jacking this guy away from me, Pat?' And he said, 'Your begging sheet says this guy's Club got the cold-turkey on us and cost us twenty grand to beat that rap. You shut up, and we won't hurt you,' he said. So there was nothing I could do just then, see? We went across the ferry to Berkeley, with Pat still between us, and headed north. I didn't have too much gas in the car to start with, and Mike noticed the gauge and asked Pat how far it was to Anderson's, and Pat said 'Pretty near a hundred miles.' So they had to stop here in Pinole to get enough to carry them. And I got a chance to sneak into this telephone——"

"*Anderson's?*" Lempereur asked Bulger, who knew

more about California than the rest of the Club together.

Bulger nodded vigorously, and Sloat said "Hush!" The record turned always:

"I called *The Star*, but I didn't dare tell the chief what had happened, or say we were in my car, or name the Collighans, because he'd fire me sure. So you got to help us out, see? From what Mike said, I know we're going to a hide-out ranch run by Olie Anderson, known as the Swede, up in the mountains to the north of Calistoga, at the head of the Napa Valley. I'll go with them and try to get your friend out of it. I believe I'm safe; they won't drill a newspaper man. And I swear to God I never meant this to happen. Now here's what you do: you get hold of a squad of State police——"

The hurrying sentences were suddenly interrupted, and the loud speaker rattled to the fury of a second voice:

"You squealing bastard," it said. "Tell 'em about *that!*"

It sounded as though three doors were slammed, almost together. At the same time, some one cried out in terrible surprise and despair.

For two or three seconds the record clicked slightly, and then abruptly came Miss Smiley's voice, pert as ever, saying with an unconscious irony that made the flesh of the listeners crawl:

"Hello? Are you finished? Hello? . . . He must be finished. . . ."

Then, almost at once, the machine began to repeat Lempereur's second conversation with Abel Brander. The chemist lifted the needle.

"Do you realize," he said into the silence, "that record, telling just where the Collighans were going, has been in my office ever since the moment——"

He picked up the telephone beside Sloat, and gave a number.

"F. B. I.?" he asked. "Give me Mr. Stryker. . . . Stryker? Glad to catch you in. Any development? All right, never mind I have positive information who abducted Brill-Jones, and where they went to. . . . Yes, the Collighans, without question. . . . No, you're wrong there. . . . You understand that the price of this information is permission for me to go in with your men? Very well. One Olie Anderson, called the Swede, runs a hide-out ranch— Oh, all right. When shall I meet you, and where? Calistoga? . . . Not before then? Very well, midnight it is."

"And now——" said the chemist, grimly, jiggling the hook.

He gave another number. "I want Miss Smiley's home telephone number." After a pause he was told it, and repeated it to the operator.

Bulger was putting on his coat, MacCarden helping him into it. Sloat was sitting forward, staring at his glass. They all heard the cheery accents of Lempereur's switchboard girl.

"Miss Smiley," said the chemist, "I have just been playing back a record of a statement made over my telephone by a reporter of *The Star*, who is now dead. Can you tell me when that record was made?"

"Oh, indeed I can, Mr. Lempereur," replied the lilting voice. "It was made at about quarter to twelve day before yesterday. You were out, and so was everybody, it seemed. He appeared to want to talk to you

very badly, said it was *most* important. I told him you were out and your secretary had gone to lunch. He said: 'Doesn't Mr. Lempereur have some kind of thing for recording conversations?' I said, 'Yes,' and he said, 'Put me on it, quick.' So I did."

"And may I ask why didn't you tell me about it?"

"Mr. Lempereur, I know you'll be awfully angry with me when I tell you it just simply slipped my mind."

The chemist collected himself and found speech at last.

"Miss Smiley," he said, "you are discharged, effective this minute."

There was no trace of embarrassment in the reply, and the coyness in the girl's voice could be heard all over the room.

"That's quite all right, Mr. Lempereur. I was going to quit next week, anyway. I—" said Miss Smiley, "I'm going to be married."

FISH MAN HUNT NARROWS!

The Napa Valley is driven like a long crooked dagger into the ridges of the Coast Range above San Francisco Bay. Broad-bladed at the hilt, it angles first northward and then northwestward, narrowing all the way, and coming to a point among the abrupt foothills that build up into the shoulders of Mount St. Helena.*

Wedged into this point lies the community called Calistoga, prideful out of proportion to its size, of its reputation as a spa (sulphurous water and mud baths), of its slogan ("The Smallest Town in the World with a Rotary Club"), of its geysers (pictured on all the cheques of the Calistoga National Bank and described as being at a temperature of 212° Fahrenheit), and of its completely concreted streets and street lighting system.

The last of these felicities give the town character even at midnight, when the good citizens are safely tucked in bed. The main thoroughfare stretches away wide and white and deserted under blazing street lamps, suggesting the bright spacious hush of a railway station at four in the morning. Rarely, a belated automobile passes through the center at high speed; still more rarely, stops.

When Bulger touched Lempereur and said, "Here

*See map on page 111.

we are," the chemist awoke and looked through the windshield. Three heavy limousines were parked in front of the stucco façade of the bank. As Bulger drove up beside them, it could be seen that they were filled with quiet men.

The driver's door on one of the cars swung open, a lithe young figure got out and walked over to them.

"Hello, Stryker," said the chemist, "ready to go?"

"All set, Mr. Lempereur," replied the Special Agent. His appearance was surprising; he looked like a college athlete who would be able to keep up his marks without cramming; he seemed too young and studious for his job. Further, there was a sort of leisureliness about him; he came and leaned on the door of Bulger's car.

"Who's this?" he asked pleasantly.

"My bodyguard," said the chemist, calmly. "Mr. Stryker; Mr. Bulger."

"Oh, all right then," the younger man said, not missing the amused surprise on the salesman's face. "Your responsibility, of course. I must insist that you leave any use of force up to us."

"Of course," agreed the chemist.

"Now as to procedure," went on Stryker, in a low voice, clearly audible in the dead stillness of the street. "I plan to go in by two different ways; and possibly a third, if we find it practicable. The place we are interested in is located up in the mountains off what is known as the old Oat Hill Mine Road. It is possible for cars to enter both ends of this road, although one end is in very bad condition. However, both ends are passable, so we can't leave either open. I suggest you follow the cars which will go by the better way. The

other route is likely to be a work-out for every one in the party."

"Any way you want it arranged," said Lempereur, for once conceding leadership, on grounds of superior knowledge.

"Right. You follow the nearest car. We will go up the Mount St. Helena grade to the old Toll House tavern, and stop there a minute. I want to find out if we can also approach the Anderson ranch from the rear, across what they call the Crater Country. See you there."

The four automobiles churned, rolled to the end of the main street, turned left, then right, and roared out into the open country. Within a mile of the town, the road seemed about to run head-on into the dark ridge lying to the eastward of the valley. Here one of the cars made a hairpin turn to the right, and the chemist could see it laboring up the steep pitch, the headlights bucking on a badly washed dirt road. Following the two others, the car containing Bulger and the chemist soon began to climb as well, but on the broad macadam of the Lake County grade.

The rain was definitely over. Foliage by the roadside within the sweep of lights looked refreshed and drying; the gutters were muddy, but the four tire lanes on the oiled surface were already dry. The valley floor was blanketed with fog at a few hundred feet above the ground, but half-way up the hill the cars burst through this covering, met a brisk north wind, and saw a starry sky only here and there obscured by ragged clouds in full flight.

At the top of the six-mile climb, the leading car pulled off the highway to the left and drew up before

a low building surrounded by heavy trees. Lempereur saw Stryker get out, mount the steps to the porch, and heard his knocking above the rush of the breeze through the pines of the gap.

After a few minutes, the beam of a flashlight moved in the house, and an old man in a nightshirt appeared in the doorway. He cut short Stryker's apologies for the lateness of the disturbance with an unexpected remark, delivered in a querulous tone:

"Well, it's about time you fellers was getting here. I thought you'd be here a whole lot sooner."

"Why is that?" asked Stryker, evidently taken aback, and none too pleased at the thought that word of his coming might have struck this close to the target.

The old man paid no attention to the question.

"My telephone's been out of order all day, the dash-blinked thing, or I'd have called in," he went on, peevishly. "But I says to Bud, 'Bud, they'll surely see that in Calistoga,' I says. And he says, 'I don't think they will, Pop.' But I guess you did, or you wouldn't be here, eh?"

"Seen what?" Stryker demanded, raising his voice to the shout required by the sound of the wind and the evident state of the other's eardrums.

"Don't holler at me!" snapped the old man. "I ain't deaf. . . . Seen the flying machine that fell down over in the Crater Country, of course. That's what you're after, ain't it?"

In one bound, Newton Bulger was out of the car and running toward the porch. Lempereur followed.

"Yes," said Stryker cautiously, "that's what we're after."

"Where did it fall?" asked Bulger. "When? Didn't you go over to look?"

"Say, I guess I didn't!" said the old man. "It was raining pitchforks and hammer-handles. But Bud went up on the ridge when we seen the smoke; and he says he could see it burning up away over there."

"Where did it fall?" put in Stryker. "Anywhere near Olie Anderson's place?"

"Yes," said the old man, giving his questioner a shrewd glance. "Must of been pretty close to there. Bud says it hit the ground over at the far end of Bear Valley."*

"Is there any road across the Crater Country to Anderson's that a car could drive on?" asked Stryker.

"Not straight across. That country's all stood on end. But there's a trail, and if you ain't paralyzed, you can walk. In my day, young men weren't a-scared of using their legs——"

"Is there any one here who can show us the way?" interrupted the man from the Department of Justice.

"Bud could, if I can get him awake. He knows the Crater Country inside out. You'd have to pay him something for going over there at this time of night."

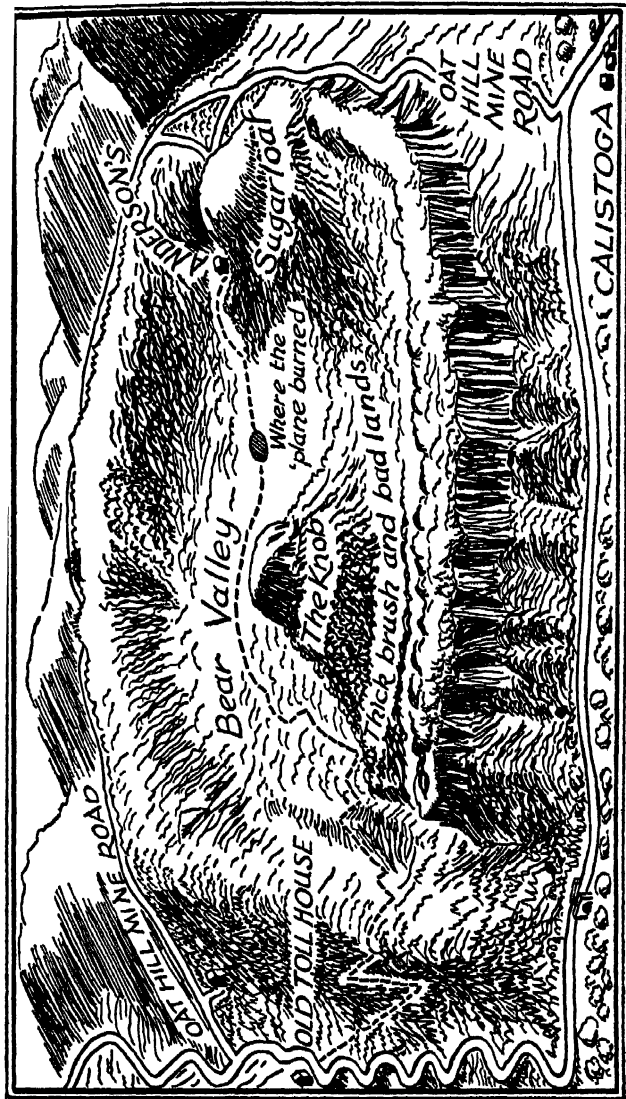
"How about five dollars?" suggested Stryker.

"Five dollars would be good," said the old man, "but ten dollars would be better. It's awful late."

"Ten dollars it is," put in Bulger. "If he'll take us to where he saw that airplane burn. How far is it?"

"Around eight or ten miles, by the trail. I'll go see can I get him up," and the old man disappeared.

*See map, p. 189.



Schematic plan of the "Crater Country", looking northeastward

Lempereur now stepped up to the F. B. I. agent and drew him away from where Bulger was standing in apprehensive meditation in the penumbra of the automobile lights.

"Stryker," he said, "you know we have every reason to believe that our friend, Doctor Brill-Jones, has been brought to this place. We have some reason to hope that he may be still alive. I trust you are taking this possibility into consideration in planning your capture of the Collighan brothers."

The younger man hesitated in the darkness, and then said with great directness:

"Mr. Lempereur, I'll have to be frank with you. We always try to settle these affairs without shooting, if it can be done. Every once in so often, it's impossible to avoid gunfire. We've had our eyes on the Collighans for a long time; we've just been waiting for them to commit a Federal offense. Up to now, they've managed to keep under local jurisdiction. Maybe they are smart, but I think it's more that they were lucky. Anyway, we're not going to miss this chance to grab them with the goods. In other words, the order is out to take them—dead or alive."

"I see," said the chemist.

"We are going to try to be in position around Anderson's place by daybreak. It will be Sunday morning. The Collighans often hit the bottle and never were early risers. On the other hand, they must know they have government heat on them, and it's too much to hope that they will be asleep, or even unprepared. Mike Collighan always has been a 'heavy man,' and Pat is just about as handy as his brother with firearms. Frankly, I believe they'll resist to the limit. I

was with the party that cornered the Barkers* in Oklawaha. I expect the same sort of trouble with the Collighans."

"What about this man Anderson?" asked Lempereur.

"The Swede? I'm not worrying about him. He's one of the by-products of prohibition; small-time, not dangerous. Before repeal, he used to run a still on his ranch, and got to know all the big shots in bootlegging. They would come up here for the deer hunting. Later they began to use it as a place to cool off. Olie found that paid better than distilling, and was easier work. I understand he calls his ranch a 'resort' now, and supplies his city customers during the hunting season with carrier pigeons so that they can warn him when they're coming. He's too far into the mountains to have a telephone. I'll admit that until you mentioned Anderson's to me, I didn't think of it in connection with the Collighans. Our files give other hide-outs for them. I'm glad it has worked out this way, though. The lay-out of the ranch is pretty good for our purposes. We shall have plenty of cover on all sides of the main building, and within point-blank range of it."

The Federal man lapsed into a silent consideration of tactical matters, until Lempereur spoke in the obscurity:

"I suppose there is no way of getting our friend out of the building before firing begins."

"We can try," said Stryker. "If we don't succeed, the situation is still not hopeless. We won't riddle

*Mrs. Kate ("Ma") Barker, and her son, Fred, shot to death in the siege of a house at Oklawaha, Florida, Jan. 16, 1934.

the house at random, of course. We will only return fire where we see firing. And there is one thing that helps a lot. Kidnappers always seem to keep the victim in the cellar of a house, for some reason. I suppose it's a survival of the old dungeon idea. If your friend is in the cellar, the worst that he's likely to get is a dose of tear gas, unless the Collighans—however, we needn't go crossing bridges ahead of time. Here's 'Bud.' . . ."

The old man had come to the door again, herding ahead of him a rumpled country boy of about sixteen. The latter, still half asleep, was stumbling along in the intense white blaze of a gasoline lantern.

"All right, Bud," said Stryker, accompanying him down the front steps. "You'll lead three or four of us across the Crater Country, through Bear Valley, to Olie Anderson's. Can you do that?"

"Unhuh," answered Bud, gawking.

"And if you do it quickly, you'll be paid ten dollars when you get back here."

"Unhuh," said Bud, without visible elation.

Stryker walked over to the men in the automobile and issued orders in a voice calculated to be inaudible to the old man on the porch. He then returned to Lempereur.

"You'll want to go with the walking party?" he asked, quietly. "I shall have to take charge of the main body which will go around by the road. The two men of mine who are crossing the Crater Country with you know just what to do, and I hope you won't take any independent action which might embarrass them."

"Certainly not," the chemist reassured him.

"We've got to find that plane," Bulger put in doggedly.

"It seems to be right on your way," said Stryker, showing that it would take more than a wrecked airplane to divert his attention from the capture of the Collighan brothers. "But you won't have any time to waste. I want to be ready and in place around the Anderson ranch buildings by dawn. I am going to call for their surrender just as soon as the light is strong enough so that a man can see his front sight."

With this ominous suggestion, Stryker climbed back into his car and rolled off into the darkness toward Lake County. The country boy plodded off apathetically, evidently with no premonition that he was about to have the thrill of a lifetime. Bulger and Lempereur tagged after the white glare of his lantern, and two heavily laden figures followed them.

The party crossed the highway, entered a forest of tall spindling pines, and began to climb steeply on a fairly well-cleared trail. It had apparently once been the main entrance to the Crater Country, for the path was channelled from six inches to a foot into the soft hillside earth. It was patterned with the prints of horseshoes.

Stryker's two men made poor company, but the chemist and Bulger were not feeling chatty.

After nearly an hour of climbing, the woods suddenly fell away behind them and they came out into a low scrub of buckbrush and manzanita on a windy ridge. The sky had been whipped clear, and the blue-black bowl overhead was thickly powdered with diamond chips from horizon to zenith. All around lay the dark tumble of hills, with Mount St. Helena bulk-

ing huge at their backs, Wiggletail at the left, and in front the lower peaks of the Knob and Sugarloaf rising out of the ruins of the great crater which gave the district a name. The north wind had a sting in it; it felt on the cheek as though it had run over snow-caps.

The last man in the file called to the boy in the lead.

"Say, Bub," he said, "can you see Anderson's place from here, in the daytime?"

"Unhuh," said the boy, miraculously creating a negative sound out of the same disyllable that served him for affirmation.

"I want that light out as soon as we get where it could be seen from Anderson's. Don't forget!"

"Anderson's is in a kind of a holler," said the boy, thus proving that he could talk, if pressed. "Can't see it coming this way 'til you're right on to it."

"All right, kid. Hurry along. It's getting late."

A descent even steeper in places than the earlier climb now began, as the file wound down from the rimrock into the bottom of the dead crater. The footing became much worse; where the trail did not lead over great expanses of strangely colored and rugged volcanic ledge, it was clogged with loose rounded stones. The burdened men behind stumbled and swore. Lempereur offered to help carry, and received into his hand two spare magazines for a Thompson sub-machinegun. Bulger, close on the heels of the young guide, had a mind only for the wrecked plane they were approaching.

Several times in the miles that they pushed behind them he asked how near they were. At last the boy

said that at any minute they should be reaching where he thought he had seen it burn. This was when they were moving over the transitory winter grass of Bear Valley, among cattle, startled or contemplative, belonging to some near-by stockman, perhaps Anderson himself.

They came first to a great sooty circle in the center of the valley. Bulger seized the lantern from the boy and swung in an arc with it.

"Look here," he cried to Lempereur. "They tried to make a landing. See those tire tracks! They didn't just dive into the ground. But where is the plane?"

"Keep quiet," put in the Federal man. "The kid says we're within a couple of miles of Anderson's, and it's right down-wind."

Bulger continued his casting around, and suddenly uttered an exclamation.

"Look at that! Something has been dragged away from this place where the 'plane must have burned. The grass is all ripped up. It can't be far; we'll have to follow."

The Federal man protested that it would soon be growing light, but Bulger hurried off with the lantern, questioning the traces on the earth like a trailing hound. Lempereur followed, fully as concentrated as his friend.

The remains of the red biplane, no more than a flame-stripped and blackened skeleton, had been dragged approximately a hundred and fifty feet from the seared circle on the open valley floor to a spot under the wide foliage of a huge clump of manzanita, where it would be effectually concealed from any aircraft passing over the Crater Country.

The stout salesman ran around to what was left of the front and inspected it critically.

"They nosed over," he said, half to himself, "but not very hard—only the end of that prop is twisted—the motor's barely moved on the mounting."

"What about Drake?" asked Lempereur.

"God knows," said Bulger, but relatively cheerfully. "You can see he didn't burn to death with the plane. See there? Both seats are empty. Enough gasoline went up in smoke down there to turn all that juicy green grass black, and to strip the frame of this crate; but it wouldn't be enough to completely destroy the bodies of two men. They must have got out before it caught fire—or something."

"We'd better move on," was Lempereur's opinion. "I daresay here again the solution lies ahead of us."

G-MEN CLOSE DRAGNET!

Gradually, as dawn crawled up the sky behind him, Lempereur began to make out the broader details of Olie Anderson's ranch.

Stryker had assigned him a position on the flank of the attack, in the shelter of an enormous live oak. The buildings were within two hundred yards of where he lay, standing on a great fan-shaped shelf which projected from the eastern base of Sugar Loaf Mountain, and overhung the southern tip of Bear Valley as a stage overhangs an orchestra pit. Even in the first light, the chemist's association with metallurgy hinted to him that this shelf was the tailing of an abandoned quicksilver mine. As the darkness thinned about him, he verified this guess. The buildings had been erected on the old mine dump, to take advantage of the only flat clearing in the neighborhood. Outside this space of perhaps an acre there seemed to be only the rugged wooded slopes on every hand.

The structure nearest Lempereur suggested, in mass and odor, a stable or barn. Beyond it he could make out Anderson's dwelling; a two-story frame house, with no lights showing.

Somewhere back of the barn a cock crowed occasionally with particularly penetrating brassiness. A pigeon cooed and scuffled within the nearer structure,

and Lempereur was reminded of those crisp \$1,000 bills that he had tossed into the air. Surely the Collighans were not such fools as to be sleeping in that dark house over yonder; with no guard posted; allowing themselves to be surrounded in the night by a small army. Perhaps they were drunk; perhaps they had hastily moved on to another hide-out, and were here no longer. Perhaps, after shooting Bernbaum, they had changed their plans and had not come here at all. But there were pigeons on the premises, anyway. . . . The chemist wondered what could have happened to the inevitable ranch dog; the picture was incomplete without a flea-bitten mongrel running around in a frenzy at the approach of all these strangers. There was no mad barking. Stryker was a young man who did not overlook details. Probably he had attended to the dog long before. In any case, it was up to Stryker.

Lempereur was struck with a spasm of shivering, for the ground was damp and the dawn wind gnawed through his city overcoat. He rolled over on his back behind the live oak, and stared at the jagged black eastern wall of the dead crater. Above it, the sky had turned to pale turquoise, pricked by the white-hot point of the morning star. There was a movement in the shadowed branches over his head; his eyes swung to the sound and saw almost within reach a handsome orange-and-black bird scanning him curiously. He recognized it as a varied thrush, a species he had not identified for, well, a great many years. This trim, friendly bird, no larger than a robin, so incongruous a note in the still moment before action, collapsed time for him. He saw suddenly and vividly

the San Francisco Boys' High School, on Bush and Octavia Streets, where he had been captain of the cadet company, long ago, in the days when he thought he was going to be a naturalist. A swift pair of blue-jays swept screaming up into the woods. The thrush disappeared like a thought. The feet of some one rang hollowly on the porch of the house. Lempereur rolled cautiously back to where he could see, and raised his night binoculars.

A tall man in blue jeans had appeared before the front door of the farther building. He carried what looked like a bucket in his left hand. He came to the edge of the porch and stared around the clearing suspiciously. After a moment, apparently having seen nothing out of the ordinary, he came down the front steps a trifle unsteadily, crossed the yard and entered the barn. A great commotion arose among the pigeons, and ceased. Then began a sound that seemed to the chemist more incongruous than the thrush; the drumming of two streams of milk on the bare bottom of a tin pail.

Lempereur saw Stryker come out of the fringe of woods about the clearing and silently approach the barn. A moment later, the hiss of milking stopped abruptly, and a grunt of dismay issued from the building.

Stryker's voice said softly: "Shut up, Olie, and you won't be hurt. Get up from that box, and come out."

The two figures came into view at the end of the barn nearest the chemist and farthest from the house. The man in blue denim trousers and jumper, still clutching the milk pail, looked utterly bucolic in the

half-light. He also looked terrified, and as though he were suffering from a hangover.

"I don't know who the hell you are," he said sullenly. "What do you want me for?"

"Mostly, we're not after you, we're after the Collighans."

"Who?"

"You know. It's no use trying any of that innocent stuff on me, Anderson. The Collighans are here, and they've got a man with them that they snatched in San Francisco a couple of days ago."

A queer look came over the face of the rancher; what emotion it expressed Lempereur could not tell from where he lay, even with the glasses. He said nothing. Stryker's voice continued, steady and cold:

"You've been harboring two public enemies, Anderson. That's a serious offense. You'd better play in with us, from now on, and make it as easy for yourself as possible. This place is surrounded by Federal officers. The Collighans haven't a chance. I want you to let me into the house and show me where they are keeping the prisoner."

Anderson stood staring at the government agent, and said nothing for several seconds. Then he set down the milk pail and cleared his throat.

"They have the guy in the cellar—" he began.

Without warning, he jumped backwards, and dodged around the corner of the barn.

"Mike!" he yelled, at the top of his lungs. "Mike! Look out, the Feds! Mike! Wake——"

Stryker bounded after him, overtook him. The government man's hand came out of his pocket and described a downward arc, bringing the barrel of a

pistol against the side of Anderson's head with a crack that made Lempereur wince. The rancher threw out his arms, his knees broke under him, and he fell heavily forward. From the crater wall to the east returned an urgent echo: "—Ike, wake!"

Stryker replaced the weapon in his pocket, picked up the unconscious figure, heaved it over his shoulder and walked into the barn. A window was raised in the house, and a man leaned out of the second story.

"Olie!" he shouted, and his tones were thick, as one who has been roused from a sodden slumber. "Whatsa——?"

Stryker, invisible to the chemist, called back:

"Mike Collighan! Put up your hands and stay right where you are. You are covered, but you won't be hurt if you do as I say. You're surrounded by Federal officers, and you will be taken alive or dead. The choice is up to you—Pat Collighan! Come out of that house, at once, with your hands over your head."

The man in the window stayed motionless, evidently driving his muddled brain into a decision. He was pushed toward it without ceremony by his brother. The glass in another window in the front of the second story shattered out with a crash. The muzzle of a sub-machinegun, blunted by the ugly cylinder of a compensator, was thrust into the light.

"The hell with the dirty Feds!" cried a voice. "Let 'em have it, Mike!"

The man at the window hastily ducked out of sight. But no flame issued from the barrel projecting from the other window. A tense silence girdled the house, and in it the Collighans could be heard bellowing back and forth to each other. They were clearly not of a

single mind whether to fight or surrender; one of them bawled that he would rather be shot than get stretched; the other replied with obscene remarks about the G-men, but was obviously hesitating. "There are only a few of them," announced the first speaker, on somewhat questionable authority. "We can shoot our way out." "They're too damn' many for us," protested the other, on no better information. "You want to be buried in Alcatraz?" demanded the first. The second roared back that he'd rather be buried in a pig, and was specific about it. For perhaps a quarter of a minute this strange dialogue went on, the two half-dazed gunmen arousing each other, and whipping their courage to the point of resistance. But for the bloody possibilities in it, the whole scene would have been ridiculous.

The colloquy in the house stopped for a moment and Stryker's voice rang out again from the far end of the barn.

"Don't be a fool, Mike. The odds are five to one against you. Come down out of there and give yourselves up."

For answer the machinegun in the window spouted trembling yellow fire at last, the .45 calibre slugs ripped through the barn and blew off a shower of shingles on the end nearest the chemist. The Collighans had reached their decision with rough finality.

This opening burst was patently fired rather as a challenge than in the expectation of doing damage. The man behind the sights held the trigger down in a savage waste of ammunition, as one who has lost his temper and is anxious to have everybody know it. After the echoing chatter had ceased there was an

appreciable moment of silence. Then a whistle sounded shrilly, and instantly from the woods on three sides of the clearing issued a deafening fusillade. The light was now sufficiently strong so that the chemist could see the black pockmarks which were suddenly appearing on the white clapboarding of the house around the second-floor windows, and see the cascade of broken glass twinkling and gleaming as it spilled down the eastern face of the building. Within a minute it seemed to him impossible that a person on the top floor could have survived such a blast of flying lead. Yet, when the firing out of the woods slackened, two guns answered from inside the house. But in contrast to the thunderous chorus of the police arms the fire of the defenders struck lonely and thin on his ears, and he suspected that the Collighans now realized to the full how desperate was their position.

Lempereur was, in general, down-wind of the action. The clouds of burnt smokeless powder drifted over him in a bluish haze and the sharp reek set him to coughing. He could see only two other men: Bulger, crouching fascinated behind a giant madrone tree some yards to his left, and a special agent directly in front of him at the other end of the open curve of the mine tailing. The latter was inadequately sheltered, and the chemist expected to see him hit at any minute. It was clear that the officer had taken up position in the darkness—next to the masonry façade of a hillside wine vault or root cellar typical of the country—and now found, when it was too late to move, that there was less cover than he had thought. To make matters worse, he was armed with an automatic

rifle, under any circumstances a long and clumsy weapon, and he had to use it left-handed, in order to expose as little of himself as possible. Every once and so often, as the Collighans miraculously continued to fight, one of the beleaguered brothers would try to kill this man. Lempereur could see the special agent hastily pull in his rifle and flatten himself between the stonework and the slope into which the vault ran, while a swarm of bullets splintered the heavy wooden door in the façade, and knocked chips and dust out of the masonry and the hillside all around him.

From time to time, the shooting would die down, as every one at once happened to be reloading or looking for a target. Then the detonations would rise to a new crescendo. The chemist began to hear the thud of gas guns mingling with the sharp rattle of the small-calibred weapons, and raised his head to see the snowy explosions of tear gas bursting from the smashed windows on the second floor. Lempereur was so conscious of his noncombatant status that it had scarcely occurred to him that he might be fired upon. He now raised his head a trifle too much.

He heard a sound like the dying wail of a siren as a lopsided bullet glanced from the tree directly above his ear and hurtled off into space. On the gray trunk showed a patch of shredded underbark, the color of watermelon meat and as big as a man's heart. The wound in the tree was altogether too ripped and red to suit his taste, and he took more care after that not to offer his head as a bullseye.

The volleys and scattered shots continued beyond all reason. In the midst of the uproar, the chemist saw the boy who had guided them to the ranch. He

was crawling across the steep face of the mine tailing, using the shelf itself as protection. He wormed his way to where Lempereur was lying, came close, and yelled something. He was a different person from the sleepy and apathetic youngster of the midnight before. His face was flushed, his eyes sparkling.

"What?" Lempereur shouted back.

"Why ain't you shootin'?" yelled the boy.

"Not my fight," the chemist bawled, sensing that no excuse would satisfy this critic.

The boy regarded him with disgust.

"Well, anyway," he declared in a more normal voice, as a lull gave him opportunity, "I'll take them cartridges you got, and give 'em to somebody who'll do some good with 'em."

And picking up the two Thompson magazines (which the chemist had forgotten), the boy sneaked off along the hillside and disappeared into the woods beyond Bulger. Every line of his body announced him gloriously happy.

Lempereur surprised himself in a sigh, shook his head, and looked back toward the besieged building. His breath stopped.

Through the wrecked window-sashes of the second floor was pouring not only the white fumes of gas but also a thicker black smoke. It was the color of no gas with which he was acquainted, although he tried at first to make himself believe that it was some new wrinkle of the Federal men. No, that wouldn't do. Unquestionably the building was on fire.

Now the words of Anderson, just before he was knocked out, rang in his ears more loudly than the firing. "The guy is in the cellar. The guy is in the

cellar." Precisely as Stryker had predicted. "And the house is burning down," he said out loud.

He had assumed that with the Collighans eliminated it would be a simple matter to enter the house, descend into the cellar—break it in, if necessary—and release Brill-Jones. This new development completely changed everything. If the Collighans' guns could not be silenced before that fire spread down the stairs into the first floor. . . .

He could see that the besieged men had beat a retreat from the heat, and were now firing from the lower windows. How was it possible that they had not been hit a dozen times apiece! Probably they had, but it was not enough. . . .

The guns in the house continued to fire, jumping from window to window to confuse the Federal marksmen. Orange flames were beginning to tongue out through the windows in the wall facing him. Clouds of smoke spurted from the upper floor in irregular gasps, as the flames alternately rose and drew in more air. The smoke bore down on the chemist, until he could scarcely see the building. With it came a whiff of tear gas, nearly blinding him. But he could see that the red interior glow was shining down through the front door. . . .

What could he do—what could he do . . . ?

He pressed his forehead and streaming eyes into the cool moss at the base of the tree, trying to avoid the lacrymator with which the air was poisoned. A bullet passed close over him with a tearing whine. If he should try to run in and enter the building he would be shot down within fifty paces. There was no solution. . . .

YEGGS IRK SAVANT!

As the mind turns back from consideration of a problem too intricate for it to comprehend, so it balks at dealing with one that is too heavily charged with emotion. In some brains there seems to exist a sort of fuse; at a certain degree of logical or emotional overload, this fuse blows out; the thinking machine becomes completely paralyzed. In other minds the safety device suggests more a lightning arrester; thought continues beyond the danger point; but it is short-circuited away from the immediate problem and into a quite unrelated line of reasoning. Every man's mental wiring can stand a definite "peak load," and no more. It is obvious that capacity varies as widely as the individual, but once the limits of that capacity are reached, the control works automatically and will not be denied.

Lempereur's intellect was built and trained to stand more than that of most men, but it was disciplined to handle logical rather than emotional burdens. Now, as he pressed his smarting eyes into the moss, and heard the flying slug sing overhead, and pictured Brill-Jones helpless under that burning building, and realized he could do nothing but lie there, it was too much. With no effort of will his mind abandoned the insoluble problem and was "shorted"

into a consideration of an earlier puzzle—the mystery of the death of John Gregory Hunter.

The sound of the passage of the Collighan bullet both tripped the switch in his head and supplied a starting point for the substitute thought.

If that shot had issued from the muzzle of a gun held so much as a millimeter lower, he might now be as dead as his late friend, the physicist.

There would be a curious parallel between the conditions of Hunter's death and his, looking at the two occurrences from a broad chemical position. One killed by radium (what else could explain all the facts?); the other by lead. That was certainly close enough, atomically speaking.

The dead lead injected into the chemist by one of the Collighans. The living radium injected into the physicist by a person unknown. And how?

That was the hitch; the bullet had a false resurrection. It was dead. It was not radium; could never be radium again. As a projectile, it would originate outside him, by a vitality not its own, enter his body with a terrible commotion, and die again forever as it killed him.

While the projectiles from the radium, once Hunter had taken the substance into his system, would originate within his body. It would have its own terrible life. Steadily, without a sound or disturbance, continuing to pour out its deadly emanations—the massive alpha particles, the beta electrons, the gamma rays. Doubtless the gamma rays had done all that damage to Hunter's tissues which the doctor and he and Don Ingalls had noted.

The gamma rays! What else could it have been?

The gamma rays, boring through the body like countless millions of submicroscopic bullets, each one leaving behind it a trail of wrecked cells. Everything pointed that way.

Yet it seemed certain that Hunter had not consumed radium water; at least not at the laboratory.

How had the radium been put into him? Or could it have originated outside him, like the Collighan bullet? A hole bored in the back of his chair, say—the radio-active substance put in it and covered over. Shot in the back!

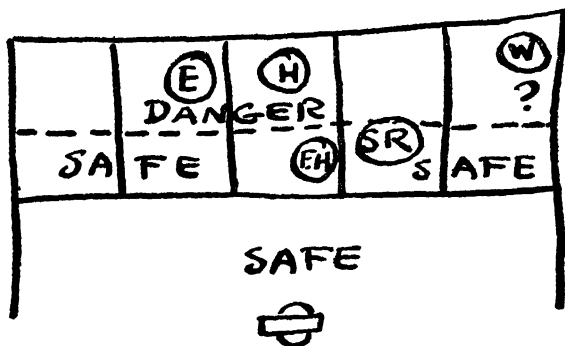
No, there would be the skin erythema on the back of the body to give the method away, and he and the doctor had observed no such burning. The erythema. To avoid that, the source of the radiations would have to be more diffuse, or the gamma rays come from a greater distance.

The chemist raised his head. The air was clear of tear gas, but smoke from the burning building cut off his view of everything except the nearer tree trunks. It did not matter to him now, so sharply was his vision turned inward. At this extraordinary moment, and under these circumstances, he read the true answer as to how John Gregory Hunter had met his death.

"The sunburn," he said, under his breath. "And I thought it was heaviest on one cheek because he had been lying in the sun on his left elbow, taking notes. The brown glass water pitcher. The anæmia. Erickson claims he is anæmic, too. How stupid I have been!"

Ignoring the amazing character of this revelation, ignoring the improbabilities looming over his solution, ignoring the smoke and the gunfire, the thought of Brill-Jones and of his own helplessness to aid his

friend, Lempereur pulled an old envelope from his pocket and on the back of it drew a little plan. It looked like this:



He finished the sketch and regarded it thoughtfully, through the water still blurring his inflamed eyes. He had no doubts about the correctness of his answer. Though he did not altogether like this answer, he was calm. Intellectually, at least, he was at peace.

In front of him the volume of firing was decreasing. A man was shouting wildly. A great crackling roar fought to obliterate these smaller sounds. The smoke descended on him again in choking waves. A shower of glowing splinters of wood came with it.

Out of the tawny obscurity on his left materialized the stout figure of Bulger, sputtering and coughing in spite of a silk handkerchief tied over the lower part of his face.

"Are you all right?" he howled in the chemist's ear.

"Yes!" replied Lempereur.

"I thought you'd been shot. Why the hell don't you

get out of here? Slide down over the edge of the mine dump."

Bulger pushed the chemist ahead of him, and the two men stumbled down the slope into clearer air. The chemist marked with astonishment the quiet, violet-shadowed valley below them, the purple sawtoothed rim of the crater. Incredibly, the sun had not yet risen. Lempereur had the feeling that the siege must have lasted for hours. He turned, and saw, over the drift of smoke, a golden coronet resting on top of Sugar Loaf. Up there, it was sunrise.

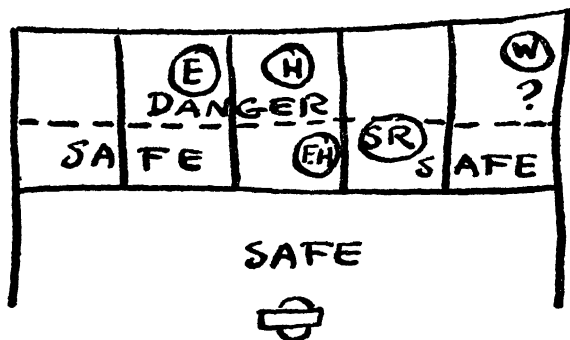
Lowering his eyes, the chemist faced the streaked and polychrome breastwork of the dump. He worked his way to the middle and started to climb. Bulger came after him.

Cautiously, Lempereur brought the top of his head above the edge of the tailing. All firing had ceased. The top floor of the house was ablaze from end to end; at one spot near the ridgepole the flames had eaten through the shingles and were pluming above the roof. The lower story was also well alight.

As the chemist watched, a figure appeared in the front door; a big smoke-blackened man, with a sub-machinegun in his hands. He staggered across the porch, as though completely blind; hesitated, swaying against one of the posts, released a score of bullets at random into the woods, and then pitched headlong, and face foremost, down the steps to the ground. Lempereur knew that he was dead from the way he lay; the back of the union suit in which he had been caught by the Federal attack was smoldering from the nape of his neck to his buttocks.

Immediately, men poured into the clearing from

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the barn and the surrounding grove. The automatic rifleman by the wine-vault masonry extricated himself with a certain caution, looking frightened. Bullets had torn wide open the left sleeve of his coat. The chemist and Bulger scrambled over the lip of the dump. Stryker ran through the smoke toward them.

"The back of the house is the only part you can get near," the government man called. "I have a couple of men trying to break through the wall into the cellar. There are no windows."

"What are you doing that for?" asked Bulger, with interest.

"Before I had to knock him out, the Swede said Doctor Brill-Jones was being kept in the cellar. With luck we can break in through the foundations of the house before the floors cave in."

"Of the *house*?" repeated Bulger, incredulously.

"Why not?" Stryker asked.

"Say, friend, you're in a part of the country where most of the houses don't have cellars—under them. This is a wine-growing section. See that vineyard lying on the hill over there?"

"Well?"

The stout man swung around, and pointed to the stone façade which had furnished such an imperfect sanctuary to the automatic rifleman.

"I'll bet you five dollars there's a wine cellar behind that plank door running back at least a hundred feet into the hillside—probably an old mine working. If our friends are this side of Jordan, they'll be in there."

While the other two considered this possibility, a brace of Stryker's men appeared, carrying axe and

crowbar, and announced that they had ripped off enough clapboarding and sheathing to see that there was, indeed, no cellar under the house. The special agent immediately ordered them to break in the door of the vault.

As the group drew close to it they could hear a sound of impatient pounding from within.

"Buzz Drake!" yelled Bulger.

"Yes," answered a muffled voice.

"Have you got Cy?" Bulger demanded, his mouth against the keyhole of the heavy rough door.

"Yeh, how about letting us out!"

The sales manager for the Pittsburgh Equipment Corporation stepped back, his round face beaming. The agent with the axe sank it into the planking by the lock.

"How about that!" said Bulger to the chemist. "*How* about that, eh?"

The door resisted stoutly, as was to be expected from weather-hardened redwood two inches thick. Eventually, the blows split the board around the lock; the bar was driven into the crack and the whole edge of the door burst loose. Bulger yanked the ruin open, and out walked Drake. He was wearing one of the handsomest black eyes Lempereur had ever seen.

"Boy!" rejoiced Bulger, grabbing him by the shoulders. "Boy! You're a sight for sore eyes! Oh, what a shiner! Where did you get that? Are you all right except for that? I sure thought you were dead, until I saw that plane. I thought you'd just flown her bang-smack into the ground. Where's Cy? Is he all right? They didn't hurt him?"

The reporter was grinning at his friend.

"Cy's back in there helping Van—the pilot. I believe Van has a cracked ankle. And if you think *I* have a shiner, say, you ought to see *him*. He's got crape on. Both his eyes are in mourning. Cy hasn't a mark on him; the Collighans didn't hurt him. But he'll never be the same man again after this experience."

"What's the matter?" asked the chemist, sharply.

"Wait till you get a load of what he has to say. The horrors of kidnapping! I'll let you hear it first-hand."

"What happened to your radio?" Lempereur asked.

"I don't know. It just quit on us. I could hear your signals perfectly, right up to the time we landed. I was wild, knowing we were right over the hide-out—and you couldn't hear me!"

"How did you know it was the hide-out?"

"I couldn't be absolutely sure. But the pigeon came into it straight as an arrow. And when a guy pops out and shoots at your plane—well, you kind of get an idea that something is phoney."

"They fired at you?"

"I believe so. I couldn't hear the reports over the noise of the engine, but he pointed a gun at us, and almost immediately the motor conked. Following the bird, we had come in and practically dragged the undercarriage on the building. Van believes he hit the feed line, or the carbureter. By then we were so low, there was nothing for it but to make a dead-stick landing. That pilot certainly knows his stuff. He pancaked her down into a valley about the size of a gal's pocket handkerchief. We lost most of our forward sped before we struck a rock and did a ground

loop. My head hit the instrument panel and we hung from our belts. I dropped right out, expecting fire. Van had been knocked cold, but I was able to get him clear before the ship started to burn."

"How did you get here?"

"Oh, don't think we crashed the party—we wouldn't have done anything so *gauche*. We were invited—at the end of a Tommy gun. Our dear friends Pat and Mike arrived, and made me help them drag what was left of the plane into some bushes. They'd been working up a snootful, and they sure were ugly. "Tell you the truth, I thought they were going to add Van and me to Bernbaum. In the end, they brought us back here and chucked us in with Cy. It was a bad eighteen hours. At that, I think they'd have bumped us off and run for it, only from what they said on the way back I gathered that two of the pigeons had come in, and they hoped to collect a couple more before they blew. Also, they figured by grabbing us they'd kept us from reporting where they were. They never thought you'd work so fast. I hadn't much hope of it myself. You must have broken the world's record for a speedy follow-up on a kidnapping."

"Just before Bernbaum died," said Bulger, bubbling into speech, "he left a record in T. M.'s office saying where the Collighans were going. We found it last night."

"No kidding! I hope you 'phoned that to *The Times* for me, before the last deadline."

"We did not," Lempereur assured him.

"Then I got to get back to town worse than Cy," said the reporter.

Stryker and one of his men appeared in the frame

of the cellar door, supporting between them the limping young flyer, whose forehead and eye sockets were so bruised he seemed to be wearing a domino. Close on their heels came the little figure of Cy Brill-Jones. His grizzled beard, usually so trim, was ruffled outward from his cheeks; his eyes popped behind the *pince-nez*; his expression was one of furrowed anxiety. He bounced clear of the three men ahead of him and rushed up to Lempereur.

"Thank God you're here, T. M.!" he exclaimed, using a stronger phrase than the chemist had ever heard on his lips. "I'm sure *you'll* know. I asked Buzz Drake as soon as he arrived, and can you believe it, he hadn't thought to inquire. It's been terrible! It has aged me ten years!"

"Asked Buzz what?" said Lempereur, puzzled by this vehemence.

"About the planting in Tank 135," Brill-Jones said. "Have some new plants been put in?"

"What are you talking about?" demanded the chemist.

"Tank 135! The one with the species in it that we have never shown on the coast before—*glossogobius giuris*, *megalops cyprinoides*, *toxotes jaculator*, all of them! My God, they'll all die. Just before these—these crooks carried me off in their car, I telephoned the aquarium and told that idiot to remove all the oxygen-giving plants. I noticed they were unhealthy the night before. I didn't tell him to put any in, because of course I expected to be in the building in a few minutes. He's quite capable of leaving them out, and smothering the fish. *Did he replace them?*"

"I'm afraid we've been too worried about your

safety to think about your fish," said Lempereur, trying not to smile in the face of such genuine agony.

"Worrying about *me!*" cried the little scientist. "Why, I was all right. But I begged them repeatedly to let me telephone, and they wouldn't. Then I urged them to send the simple message: 'Put plants in one-thirty-five.' Do you know they wouldn't even do that. The rougher of them said: 'Yeah? Send your friends a code, eh?' It was exasperating!"

Bulger had been staring blankly at this most agitated and smallest member of the Catalyst Club.

"But seriously, Cy," he said. "Tell us about how they kidnapped you."

The ichthyologist swept him with a reproachful glance and then looked absently at the blazing framework of the house in which his captors had been killed.

"I can't!" he exclaimed. "Don't you see it's not in the least important?—T. M., you must get me back to the city at once!"

CATALYST-STAR FIGHT, DRAW!

Once every week the long presses groan and labor to bring forth that strange monster, the Sunday newspaper. Following this special travail, Monday's paper is always emaciated, as though it had been born too soon after its lusty elder.

The editions of *The San Francisco Times*, on the morning following the rescue of Brill-Jones, were appreciably fattened by accounts of this occurrence. The melodramatic way in which the Collighans had been trapped and killed made a story with special appeal to newspaper editors and readers alike. It had the untamed and mountainous background which has come to be considered essentially western. It had a satisfactory amount of blood and powder smoke. It had "big names," for the brothers died at the peak of their notoriety. It stole glamour from the "horse opera" of an earlier day, and borrowed impact from the twentieth century by substituting automatic weapons and bullet-proof limousines for "six-guns" and broncos. And it had a happy ending, because at the moment the public was worshipping the government agent instead of the gangster.

For one reason and another, *The Times* was able to present a more nearly full and correct report of the release of the kidnapped fish expert than any of its

competitors. And of all the columns of print devoted to the incident, what pleased the staff of *The Times* most was the one containing Bernbaum's last statement almost word for word as it was recorded on Lempereur's machine. To scoop a rival newspaper out of the mouth of one of that rival's own men was edifying beyond ordinary hope.

All mention of the Catalyst Club, by name, had been deleted from the account. Drake had promised to attend to this personally when he coaxed a copy from the chemist and Sloat. *The Star* was not named, either, but it was unnecessary. Drake had clinched the argument with Lempereur by pointing out how publication of *The Star* reporter's part in the case would make Abel Brander writhe. Sloat, after deliberation, said he did not see how it could prejudice any later action they might wish to take against the afternoon paper or its editor. There was the further consideration that possibly Brander would be pricked into making a false step. Thus, under the translucent disguise of "a well-known San Francisco evening paper," *The Star* was dragged at the chariot wheels of *The Times*.

This rough handling provoked the last intrusion of Abel Brander into Lempereur's work on the Hunter case, and ended by sending the chemist to the house of Sloat at three o'clock on Monday afternoon. He strode up the steps to 1103 Lincoln Way with a freshly cut phonograph record under his arm.

The old attorney's number one Filipino "boy" (who was now about forty) admitted the visitor.

"Come in! Come in!" croaked Sloat, who never would admit how pleased he was to have any of his

friends descend on him. "What the devil is it now? I know you wouldn't be here if there weren't something wrong."

"Wrong!" the chemist exclaimed, following the sound of the hoarse whisper into the library. "I've come to find out from you whether or not that rogue on *The Star* has tied our hands."

"He called you again? I thought he would. That's fine; that's fine. I hope his language was very intemperate."

"Unfortunately not," said Lempereur, walking to where the "play-back" was still standing on the table. "He kept his temper almost to the end. What's worse, he wasn't trusting himself. He has evidently seen *The Star's* legal adviser, and most of what he said was plainly being read aloud into the transmitter. You'll see."

The chemist renewed the needle on the machine, set the table to turning and the needle in the groove, and found himself a seat next to the chair into which Sloat's figure fitted like jelly in a mold.

The voices began, and after the frigid greetings by which the newspaper editor and the president of the Catalyst Club identified each other, Brander's saw-edged tones took over the conversation.

"I see," he said, "that all my efforts to conciliate and co-operate with your association are useless. I wished for a peaceful settlement of our differences, and you have chosen war——"

The voice of the chemist broke in: "Your outrageous proposals—never mind, go on."

"—You have chosen war. Since you have so decided, let it be war——"

("That's aimed for the court, all right," interjected Sloat.)

"Now," went on the faithful reproduction of Brander's harsh accents, "since you were amiable enough in our first conversation to point out a few facts which might have a bearing 'if we should come to court,' the least I can do is to point out a few more of such facts, as they appear from my side.

"First: if any one is going to law in this matter, it should be *The Star*, seeking damages for the harm done to its reputation by the insinuations and damaging implications of the material you gave to this morning's *Times*——"

("Not a thing in that," Sloat reassured his friend. "No case.")

"Second," continued the phonograph loudspeaker, "while I'm sure you will never be so foolish as to think of bringing suit against *The Star*, or any of *The Star* staff, it might help you to reach a decision on that point if I gave you a little expert legal advice.

"You have no grounds for an action for damages against *The Star*, or against any living person connected with that newspaper, for the simple reason that you could not prove any damage has been done to you or to the Catalyst Club. *The Star* has published just exactly one article mentioning your association by name, and in a fashion more flattering to the Club than its doubtful activities deserve. If Mr. Bernbaum involved one of your members in trouble with certain underworld characters, he did it as a free individual, not as an agent of *The Star*. I have three or four men here in my offices who heard me discharge Mr. Bernbaum from service with *The Star*, in the morning, be-

fore he went to call on your friend, Doctor Brill-Jones. They will testify to this under oath, if necessary——”

(“Oho!” cried Sloat. “What a fine rascally crew must be on the staff of that paper. So that’s what we’re up against!”)

The chemist had not been able to let this pass at the time the conversation was made, because the machine now echoed his interruption.

“Mr. Brander, on the evidence of your reporter’s dying statement, he still at noon of the same day had no knowledge that he had been discharged. Certainly he should have known it, if any one knew it. I believe the record of Bernbaum’s statement would prove very effective if produced in court.”

“Ah? I’m getting to the matter of that statement, right away. I was saying that I have all the witnesses I need—if I need them. I can show probability that Mr. Bernbaum invited your friend into his automobile in a desperate if misguided effort to get back his job with *The Star*.”

(“Pish!” said Sloat.)

“Further, I believe that our attorneys could easily prevent you from introducing in evidence any of the phonograph records allegedly made of our conversation and of Bernbaum’s purported confession. It’s too easy to fake a phonograph record, Mr. Lempeneur. How is the court to know you didn’t manufacture some of them to strengthen your case?

“Now,” went on Brander’s voice, “supposing you were able to produce the record you claim was made by Bernbaum. In no event would it be admissible on objection of our counsel, since it would not have the weight of a dying declaration. Our discharged

reporter made it clear that he had no 'settled hopeless expectation of death.' Since I'm sure you will confer with Mr. Sloat, I recommend that he refresh himself on 3 Wigmore, *Evidence*, second edition of 1923, sections 1440, 1441——"

("The impudence of him!" grunted Sloat. "Still, he's right.")

"A few minutes conference with him," Brander said, "should convince you that you have no evidence at all for a case at civil law. You have even less on which to base an attempt to connect *The Star*, or any of its representatives, with the felony committed by the Collighan brothers——"

The old attorney and Lempereur could hear the impatient sarcasm in the latter's accents as he had broken into Brander's monologue: "You are being too good to help me with all this advice, Mr. Brander. Perhaps you will trust me to handle any retaliation I feel is due you or your newspaper."

"I wouldn't dream of doing anything else, Mr. Lempereur," concluded the other, with an equal bite in his tone. "If you wish to go to the great—and useless—expense of a suit against *The Star* you are more than welcome to try it. We are well equipped to defend ourselves against such an attack, or *against any other kind of attack*. Bear that in mind.

"And now," grated the loudspeaker, and the two listeners could tell that Brander had shaken off the limitations of his written sheet, "since you will not play ball with *The Star*, Mr. Lempereur, I wish you good-by—and be damned to you and to your Catalyst Club!"

The record settled down to a rhythmic whispering.

The chemist rose and stopped the machine. Sloat felt it necessary to pour himself a Scotch-and-soda.

"An old dog fox," he said, "that's what he is. The moral sense of an animal; and a smart man's brain. *The Star* may be outside the pale in this matter, but it's inside the law. He's right; we cannot attack that way."

"But," exclaimed Lempereur, "damn it all! What's your law good for if it can't cope with such a situation? *The Star* told the Collighans that they had the Catalyst Club to thank for their near-conviction. A *Star* man, acting by his own admission, under explicit pressure from Brander, put a hostage from the Catalyst Club into the Collighans' hands, and supplied them with a car to kidnap him in. A paper like *The Star* has less principle than the Collighans, and far more power for evil than any individual. Is there no way of curbing such a force?"

"I have the feeling," Sloat reflected, "that this is only the first engagement in a major campaign between us and *The Star*. In this particular skirmish we have no legal redress. What charge could we make, and support? Libel? For that one laudatory article? What actual damage to the Club could we pin on *The Star* or on Brander? Accessory to the abduction? Too tenuous a connection. Extortion? No money asked for, no illegal threat made."

"Then, if the law will not help us, how can a private individual resist the evil? *The Star* should be crushed."

"A large order, and costly, by any means. It might be easier to crush Brander, first."

"How?"

"I don't know yet," said Sloat. "We'll have to give the matter our serious consideration."

"I hate to leave Brander in our rear. He will not forget. As long as he is behind us, with unimpaired power, we may be stabbed in the back. He will strike at the first opportunity, with all the will in the world."

"Well, what can we do, now?"

"I don't know," Lempereur confessed. "But sooner or later we will surely find an opportunity. It must not catch us napping. I would spend my last cent to remove such a poisonous influence from San Francisco."

For a few seconds neither man spoke, and the silence in the big luxurious library was broken only by the hiss of Len Sloat's syphon.

"Speaking of spending," the lawyer remarked. "What happened to all that money of mine you filched from me by playing on my weaker emotions? Grand larceny, that's what it was. Conspiracy to defraud!"

Lempereur reluctantly dropped his reflection on Abel Brander.

"Why," he said, "eight thousand of the total twenty burned with the Collighans. One of the pigeons, with four thousand on his legs, has disappeared. We have recovered eight thousand, half from Anderson, who found it in the cote on the morning of the raid, and half from a bird caught at Vacaville by an honest rancher. Subtracting one hundred paid to him as a reward, that means you will get back seventy-nine hundred of your ten."

"Not at all! Not at all! We'll split it. After all, we expected it to cost a lot more."

"Brill-Jones wants to make up our loss."

"We won't have it, will we? He can't afford it for a minute."

"That was my idea."

"Tell me, T. M.," said Sloat, as though closing the books on the kidnapping. "What the devil do you suppose got into those birds, flying all over the countryside like that?"

"Anderson suggested they had been too long in the city. He also pointed out that that type of pigeon does best in bright dry weather."

The chemist glanced at his wristwatch, and rose to his feet.

"I must say you're a Job's comforter," he announced, looking down on Sloat's shiny red face. "Keep your mind on *The Star*, or we may be in worse trouble than we've ever met before. I wouldn't put it beyond that man to set hired assassins on our heels."

"I'm not worried by that possibility," said Sloat. "Lawyers, like generals, die in bed."

"I suppose you're not coming this afternoon to the special meeting I have called on the Hunter case?"

"What's going to happen?"

"I have deduced exactly how the murder was committed. An extraordinary method, by the way. I believe even you will grant it unprecedented."

"Do you know who did it?"

"Yes, I'm sorry to say, beyond a reasonable doubt."

"And the motive?"

"There," admitted the chemist, "I am still uncertain."

Leonard Sloat rolled back in his chair and waved his glass.

"Motive, my dear T. M.," he orated, "is one of the

narrowest factors in a crime. There is no such thing as a new motive, as there may be rarely a new way of letting the life out of a man. Ruling out crimes of passion or impulse, a person becomes the victim of premeditated murder because, A, his death means personal gain of money, power or security to another person; or, B, because the murdered man has been foolish, weak, or negligent to the injury of others; or, C, he has done something illegal, but escaped the law, or, D, something strictly legal but actually unjust; or, finally, because he is closely related to some one who comes under the above headings. That's all. Slightly different phrasing is used by Henderson and Arthur Train* in their analyses of 'why men kill,' but the essentials are the same. You'll see. It will turn out to be one of the reasons I've named."

"None of those would appear, on the face of it, to apply to the murder of John Hunter," said the chemist. "But I've no doubt I shall know within an hour."

"Why don't you transfer the meeting to this library," urged Sloat, craftily. "You'd be much more comfortable here than in that windy——"

"I haven't called the meeting for the circle," Lempereur told him, "it will take place in the physics laboratory, where the crime was committed."

"You tempt me sorely, T. M.," said the old attorney. "I suppose there's no use asking you now who did it, and how it was done? Ah, well, I thought not."

"You are a member of the Catalyst Club; it is a

*G. C. Henderson, in *Keys to Crookdom* (Appleton, 1924), p. 323, and Arthur Train, in *Courts, Criminals, and the Camorra* (Scribners, 1912).

meeting of the Club as a whole. Your chauffeur can drive you directly from your door to the door of the laboratory."

"T. M., I'd love to," Sloat said, looking sidewise at his friend, and wriggling his globular body in the chair. "But the truth is, I'm not feeling very well this afternoon. I'm not as young as I once was— My foot——"

"Very well," said the chemist. "I must be off."

"That's the spirit!" cried Sloat, pulling toward him the bottle-laden table. "That's what I like to see in young men. Waste no time in hurrying down there, T. M.— And be sure you come back this evening, or send some one, to tell me just what happened!"

MILLS OF GODS GRIND SLOW, SMALL!

At five minutes to five, Theodore Lempereur parked his car beside the laboratory in which John Gregory Hunter had done his last work. The sun was sinking toward the seaward ranges and above it the clouds burned tumultuously, like the towers of a city put to the torch. The chemist was evidently among the last to arrive, thanks to his conference with Len Sloat, for a half-dozen cars huddled on the gravelled turnaround by the door.

He took certain objects from the tonneau of his automobile, and entered the building.

Level shafts of sunlight bored in through the westerly windows, dusting gilt on all that they touched. Even the black frame of the cyclotron seemed tempered with some metal less grim than iron, as though this modern philosopher's stone could transmute itself, in some degree, from base metal to gold.

Besides Lempereur, there were nine people in the laboratory; eight of them were visible to him at once. He had summoned the total membership of the Catalyst Club, and all the other principals in the case. Compared to his last visit to it, the building was quiet. Except for the irrepressible oratory of Newton Bulger, who was engaged in explaining the innermost secrets of the cyclotron to Doctor MacCarden, all the voices that struck his ears had a hushed quality of

anxious anticipation. The manner in which the chemist had called them together left no doubt in the minds of his associates that he was going to present the solution to the mystery of the death of Hunter; the others were at least aware that matters of the most serious import were to be considered.

Frances Hunter was sitting near the work bench, her chin tilted up as if outweighed by the bronze knot at the nape of her neck, her fine eyes shifting from face to face of the three men standing talking with her. These were Persen Drake and the two Richmond brothers. As Lempereur entered he could hear the mournful tones of Winfield Richmond, saying: "—so now I drink nothing but Vichy Celestins, imported in sealed bottles under bond. And I take three of these after every meal." The chemist saw him hold up a vial containing a number of delicately colored, pink pills. The girl was looking at him with a measure of kindly understanding, but Drake and the young Lord Byron were having difficulty to hide amusement and scorn, respectively. Watching this group, from a chair squeezed into the angle of the outer wall and the office partition, was Mrs. Mulcahy. Her presence was not explained, except on the unlikely supposition that Frances had brought her as a duenna.

Brill-Jones, with no worry in the world since the discovery that his endangered fish were in good health, had cleared a small space on the work bench and was preparing to take notes. Hugo Erickson was not in evidence about the laboratory.

The chemist checked over the people in sight, walked to the cyclotron and placed the objects he had brought with him on the cover of the lower coil, which

was as large as a good-sized circular dining table. Silence fell over the groups as they became aware of Lempereur's arrival, and eight faces turned toward him. So sober was the chemist's countenance that even Bulger's cheerful flow dried up; and such was the tenseness of the gathering that no one thought of exchanging the customary formulæ of greeting.

Lempereur took off his coat, folded it carefully and laid it on a stool beside the atom smasher. He removed his hat, set it on top of the coat, and ran one hand through his short brush of coal-black hair. Standing before the great dark apparatus, he had the air of a professor about to give the concluding lecture in a lengthy and weighty course.

"Isn't Doctor Erickson here?" he asked.

"Yes," said Frances Hunter, "he's in his office." Winfield Richmond whispered some knowing remark to his brother.

The big chemist strode to the glass-topped door and knocked. After an instant's lack of response, a chair scraped inside and Erickson appeared. He had a book in his hand. More than usually, the wide smooth scar showed up on his cheek. Lempereur's green-gray eyes met the blue eyes of the young physicist in a prolonged and searching scrutiny. Then the older man said:

"I have taken the liberty, Doctor Erickson, of calling a meeting of the Catalyst Club in what must now be regarded as your laboratory, since you have become the senior scientist here. I wish you to be present. The results of my investigations into the death of Doctor Hunter concern you personally and professionally."

Erickson nodded. His face had flushed as the chemist spoke of "your laboratory," but the cicatrice remained the same dead color as always. He came out, pulled a chair close to one side of the cyclotron, and sat down.

Theodore Lempereur pushed his fists into his trousers pockets, squared his already square shoulders, and scanned the others. They were all seated in a scattering quarter-circle whose center was the cyclotron and whose extreme radius was limited by the work bench and the partition masking the offices. The chemist's pause had a dramatic value for which he would have disclaimed all responsibility. Nevertheless, there was a spaciousness in the surroundings and circumstances attending the last act of the Hunter case that set the stage for a large or even a noble action.

The whole great interior was awash with amber light. The figure of the chemist stood solid and alone on the concrete, under this theatrical illumination, dwarfed by the full thirty feet between his head and the bare girders of the roof, and by the sombre bulk of the cyclotron behind him. And this crouching machine supplied the vaster background to the drama, for it symbolized the endless restlessness which distinguishes mankind from inanimate matter, of the hunger and persistence which sets him apart from all other animals, of the hope for racial immortality, of the undying quest.

"I have called you together today," began Lempereur simply, "to tell you how John Gregory Hunter was killed. To all but one of you I believe this will be a surprise.

"John Hunter was murdered; of that I am now certain. He was killed by a means requiring extreme premeditation and relentless execution over a long period of time. I need not point out to you that this implies in the murderer a character of remarkable resolution. You will see shortly why it also demands some technical knowledge.

"I will only touch briefly on the detailed reasoning leading to my comprehension of what occurred. At the moment of revelation, oddly enough, I happened to be under fire from the Collighan brothers. Their bullets were flying over my head, and made me think, perhaps a trifle fancifully, that, were I to be hit by one, there would be a close scientific parallel between my death and that of my friend, John Hunter. Lead, as I'm sure I need not tell you, has a close family relationship with radium. All radium will some day have turned to lead. My fancy was childish, possibly, but the circumstances were unusual, and I suppose I was not thinking altogether normally.

"These projectiles of dead lead, a moment revived, made me think of the projectiles shot out of the living radium which I then assumed, as a carry-over from Bulger's 'janitor theory,' had been secretly fed to Hunter. I won't insult your intelligence by lecturing you on the three types of radiation given off by radioactive substances. Suffice it to say that I naturally arrived very shortly at a consideration of the most penetrating of those three, the gamma rays.

"Finally, groping around for a clue to the source of those rays, I came to the conclusion that they must have originated, like the Collighan bullets, outside the body they destroyed. Bulger's theory would not hold

water. Exhaustive tests proved to my satisfaction that 'Hercu-vita Radium Water'—fortunately for any one foolish enough to drink it—has no trace of radio-activity in it. Presumably, all the bottles of that sovereign remedy are filled from some grafter's kitchen tap."

Newton Bulger started to make some comment, but thought better of it. Winfield Richmond looked as though he didn't know whether to be pleased or not.

"I was at a loss to imagine," Lempereur went on, making a short turn in front of the cyclotron, and reconstructing his deduction with evident care, "by what other means any one could have put a radio-active substance into John Hunter. No one would understand better than he the dangers of that element. No one would be better equipped to observe radio-activity in his body. Undoubtedly he carried an electroscope from time to time; it would have given him immediate warning. Further, we found no radium in his body.

"Therefore, I reasoned, the gamma rays probably came from outside him and were driven into his tissues. But, if so, why no skin burn? The rays must have come from a relatively diffuse and distant source.

"Like a light suddenly turned on, the answer came to me as I lay there in the smoke from the Collighans' last stand. Gamma rays from radium are identical in all respects with X-rays of very short wave-length.*

*Lempereur made this statement almost in the exact words of the article on radio-activity in the *Encyclopædia Britannica*, Eleventh Edition, New Vol. 32, p. 219-B, lines 67-9, which he says he has never seen. Recent physical theory (as in Sir James Jeans, *The Universe Around Us*) is inclined to draw a sharper distinction, since ordinary X-rays are so much longer in wave-length than gamma radiations.

"Once I had begun to use the symbol *X-rays* in my reasoning, a whole new series of possibilities opened up. Symptoms, which had spelt radium so clearly, now fairly shouted X-rays. Other phenomena clicked into place. Among them was this——"

The chemist spun on his heel and lifted into view the water pitcher and tumbler that stood by Hunter's desk.

"Notice that curious brown glass? I couldn't think what that reminded me of, when I first saw it. That pitcher and tumbler were not always brown, were they, Frances?"

"No," said the girl, hesitantly. "They were white originally. I tried to wash the color off, and couldn't. I thought it was a stain."

"A stain in the inner structure of the glass!" Lempereur said. "A stain caused by X-rays. There is a glass just like that in the treatment room of the University of California hospital. I have seen it. That pitcher should have told me at once that John Hunter had been under bombardment by X-rays."

"The anæmia should have told me; everything that we found at the post mortem should have told me. I have since checked my memory of the symptoms of this type of injury, and John Hunter had them all!"

"This change of theory immediately changed the list of suspects. The janitor, poor futile creature, could be eliminated along with his fake nostrum. For

*The chemist referred to the following papers: *Blood Changes in Worker with the Roentgen Ray and Apparatus for Protection*, M. Milton Portis, M.D. (Journal of Am. Med. Ass., July 15, 1915); *Abdominal Deep Therapy Injuries with Report of Necropsy Findings in a Fatal Case*, Clarence F. Ball, M.D. (Am. Journal Roentgenology and Radium Therapy, March, 1925); *Weiterer Beitrag zur Pathogenese des Röntgenkaters*, Elisabeth Willms (Strahlentherapie, 1933, 47, 503-516).

a time I considered as number one possibility this cyclotron." The chemist set down the pitcher and slapped the black steel shoulder. The reporter muttered under his breath: "A modern Frankenstein; killed by the monster he created!"

"But no, that wouldn't do," said Lempereur. "Although it is a solution I'd prefer to the true one. Because why should Hunter alone be struck down? They all took precautions to avoid the X-rays shot out from that machine. While working with high potentials the whole staff went into that dug-out. At other times, they carried electroscopes while working about the machine. Is that not so, Doctor Erickson?"

"Yes," said Erickson, quietly, his eyes never leaving the chemist.

"But not in the offices, eh?"

"Generally not; they were left on the work bench."

"I thought as much. I drew a little plan of the offices, based on your statements the other night, when you each told me whether or not you believed yourself anæmic. I have come prepared to take a blood-count if it seems advisable, but I daresay you each had one taken after our talk?"

"I did," said Frances. "Perfectly normal."

"I didn't," said Sidney Richmond, lolling in his chair with pointed lack of interest, "but I'm not anæmic."

"I had one immediately," Winfield Richmond announced. "I'm not anæmic, either. But my doctor says I must take care of myself."

"That," said the chemist, "limits even more the areas of danger and safety I marked on my plan of the offices. The zone in which X-rays apparently

acted were only the back half of Hunter's office, where he sat at his desk, the same section of Doctor Erickson's, and possibly of Mr. Sidney Richmond's office. The rays did not extend as far as Mr. Winfield Richmond's room; they could not have entered the 'danger zone' from the cyclotron or the outer laboratory in general, because Miss Hunter, sitting between her uncle and the laboratory, would have received a heavier dose than he. She was not touched, as her blood-count proves.

"Do you see the conclusions to which this reasoning led me inevitably? An amazing answer, but the only one fitting all the facts.

"Some one placed an X-ray generator outside of Hunter's office, and directed the beam toward him through the wall. The X-ray tube was strong enough, when applied over a period of months, to do all that fatal damage to Hunter's internal organs, without going above the erythema intensity. If a stronger radiation had been directed on his body, there would have been a serious surface burn to warn us, or Hunter himself, of the impact of the deadly rays.

"Portable X-rays sets are now made smaller even than the ones you have seen at your dentist's. I conceive the murderer to have bought one of these and concealed it where it would play on Hunter through a thin partition. Given long enough, the smallest set could have killed my friend. It would plug into an ordinary lighting circuit; any noise of operation would be drowned by the sounds of the laboratory.

"Having argued so far, I asked myself: where could this set have been placed, by whom, and for what motive?

"The location, by process of elimination, was fairly simple. It could not have been in Hunter's office, because of difficulties of control, and because the buzzing sound would be too obvious. It could not be placed outside the building, aimed at his back, because the building wall would absorb most of the rays and the weather would ruin the set. Yet, the rays had struck him at his desk, because that was the only place where the water pitcher and tumbler ever stood.

"When I reached this point, I was sure the X-rays had come through the partition at one side of my friend, or the other."

Lempereur's voice paused for perhaps five seconds. Not a sound issued from his listeners. The sun was falling through a drift of low clouds and a chilly obscurity had slipped into the corners of the enormous room.

"The day John Hunter died," the chemist went on, with an implacable air, "I observed that his face was sunburned on one cheek more heavily than on the other. I jumped to the conclusion that he had received this tan while lying on one elbow writing notes in the sun.

"My friend was right-handed. Since a right-handed man lies on his left elbow to write, the heavier tan must have been on his uppermost, or right, cheek. Therefore," concluded the chemist, an iron ring of triumph in his voice, "I believe that the X-rays which killed Hunter originated from a generator at his right side—in other words, from the direction of the office of Doctor Hugo Erickson."

Frances Hunter buried her face in her hands. Erickson stared at the chemist, his mouth a crack

open, his entire face blanched to the color of the scar-tissue which seamed it. He said nothing.

Lempereur, watching the young physicist with edged concentration, went on:

"Of course, we cannot expect to find the X-ray outfit still in place. It could have been removed and destroyed a month ago, when all hope of recovery for the victim was gone. Not a thing would remain to betray this singularly subtle and safe way of killing a man——"

"Doctor Erickson!" cried the chemist. "What motive do you suppose could bring one man to kill another by such a long and cruel means?"

"My God, Mr. Lempereur," stammered the physicist, "you're not suggesting——"

"I am asking you, Doctor Erickson, I am asking you. That's all. Could it have been professional jealousy? Professional jealousy is a gnawing passion, Doctor Erickson. It may burn in a man's breast for years. It may eat his heart——"

"Oh, no!" cried out Frances Hunter, rising to her feet and striking the outside of her legs with her clenched hands.

"Could it have been some one who wanted credit for the material in Doctor Hunter's last papers? Who knew the value of those final notes? Some one who might burn a lot of valueless documents to throw investigators off the path, and secretly keep them, to grow famous later when they were published *not under the name of John Gregory Hunter?*"

"Stop!" Frances cried, while Erickson leaned speechless against the cyclotron. The girl ran to him, and threw one arm about his shoulders in a ges-

ture of protection that halted the chemist in mid-attack. "Hugo—loved—my uncle, almost as much as I did, as much we—as we—" She said no more, but stood over Erickson like the helmeted Athene on the plains of Troy. The young man raised his hand, took hers, and gripped it.

"Well," said the president of the Catalyst Club, thrown out of stride by this development, "what other answer is there?"

"Mr. Lempereur," the girl answered, "your logic was so cold and deadly—it confused me. I couldn't imagine you'd made a mistake—and when you spoke so positively, I couldn't remember. But now I'm certain you *have* made one mistake—you said yourself that you jumped to the conclusion——"

"What conclusion?"

"If you think back, Mr. Lempereur," Frances said in a tone that was nearly one of pleading, "I'm sure you'll remember as well as I do now. The tan was heaviest on my uncle's *left* cheek."

SCION FLAYS SCIENTISTS!

"Et tu, Francesca," said Sidney Richmond, and rose without haste to his feet.

"Are you sure of that, Frances?" demanded the chemist, and added quickly: "You may well be right. Have I been guilty of twisting a fact to fit a theory? That is unforgivable. However, I realize I could not swear that it was your uncle's other cheek. You may be right."

"Of course she's right," said Sidney, "and here's another detail you are wrong about, Mr. Lempereur; the X-ray machine has not been destroyed. It is still in place."

The chemist regarded this light-boned handsome person, whom he had dismissed as negligible under the term "romantic fool," and looked more nearly non-plussed than any member of the Club had ever seen him before.

"Are you expecting me to believe," he asked, "that *you* know about this X-ray generator, and know where it is?"

"Yes," answered the younger Richmond. "Let's cut short these tiresome preliminaries. I suggest you go at once and rip off the curtain masking the back of the closet in my office."

"Bulger!" barked Lempereur, his whole attitude

indicating that he thought the young man was lying. Then, seeing that Bulger had unobtrusively taken a position to block the exit from the laboratory, the chemist substituted the name of Drake. The reporter disappeared on the run into the door at the right of the dead physicist's office. A second later they could all hear the tearing of a stiffly woven cloth.

"If you are not simply trying to create a sensation," Lempereur told the younger brother, "I am frank to admit that I have even less idea than before what could possibly be the motive for this murder."

"And I doubt if you ever will get the idea," said Sidney, calmly.

Drake, looking as startled as the president of the Club, came out bearing a small black "bakelite" box, oddly shaped, and with a thick electric cord looping down from it.*

The chemist, still incredulous, advanced and took the object from him.

"Where was it?" he asked.

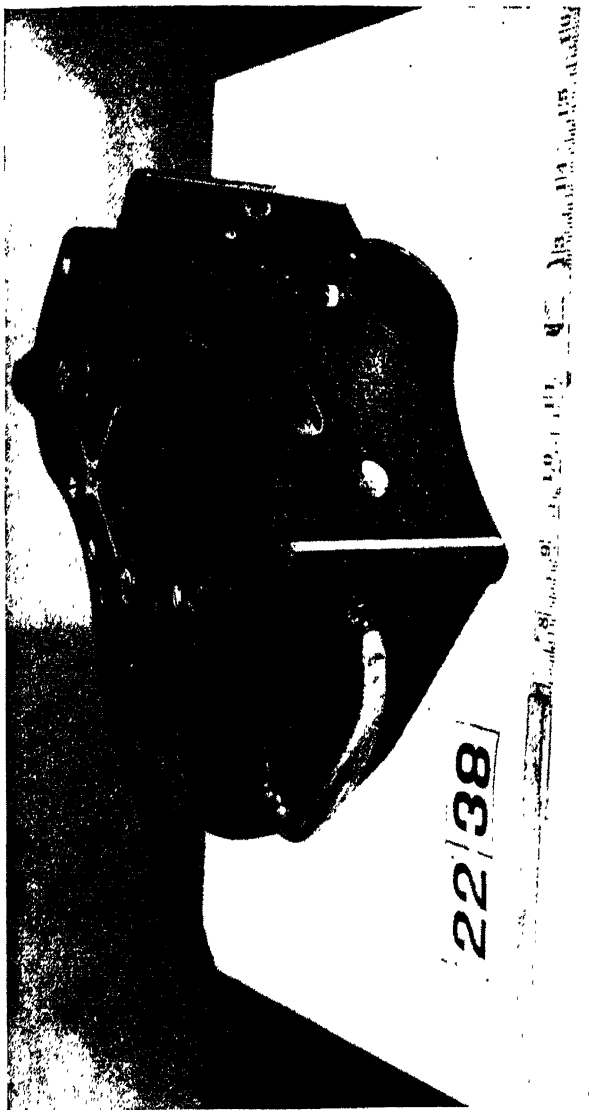
"Just where the guy said it was. On a shelf about three feet from the floor, with that hole pressed against the wall and pointing through the boards into Hunter's office."

Lempereur turned the box between his hands.

"A hundred kilovolt machine," he murmured. "Just about what I expected. Assume that at that distance it would deliver half a Roentgen per minute—it could be turned on for over three hours a day and still stay below the skin-burn dosage. This is astounding!"

He looked obliquely at Sidney Richmond, who had walked to Lempereur's former position before the

*See Plate IV, facing this page.



APPARATUS TAKEN FROM PARTITION OF HUNTER'S OFFICE
(U. C. file no. 2288, Case 138, Death of J. G. Hunter)

cyclotron, and who now stood leaning against the lower coil. The sun had dived through the belt of clouds, and hung in the clear just above the deep blue ridge of the Coast Range. The amber light had again been turned into the building, and Richmond, with sure instinct, had taken the center of the stage.

"In other words," said the chemist, "you confess to the murder of John Gregory Hunter?"

"If you wish to put it that way," Richmond answered, gazing steadily at his inquisitor. "But he was killed by that box—by the X-ray—what's most important of all, he was killed by Science, the very mistress that he served."

Lempereur brushed aside this quibble, saying: "You admit to placing the generator where we have just found it?"

"Yes, and it was the finest thing I have ever done."

"When did you put it there?"

"Oh, about a year ago, I suppose."

"You aimed it at Hunter's body, invisible through the wall, and turned it on every day?"

"Not every day. Sometimes my will faltered. I plugged it in whenever I felt up to it. I couldn't tell you how much, or how often. But, you see, it was sufficient—'not so deep as a well, nor so wide as a church door, but 'tis enough; 'twill serve.'"

The chemist shook his head in open bewilderment. He stood at some little distance from the younger Richmond. Erickson and Frances Hunter had moved around to where they could see the face of this man standing against the cyclotron, who had so suddenly become a stranger to them. Every one had withdrawn from him, in horror or amazement, or a mixture of

both. Sidney Richmond was left alone before the cyclotron, a tiny figure, dark, still strikingly handsome, with a new resolution hardening his features.

"I can't believe you, Sidney!" cried Frances. "I didn't know you hated my uncle so!"

"That's not true, Francesca. I only hated what he stood for."

"Did you take his notes out of the safe? Where are they?"

"Yes, I took them, the night after your uncle died. I had watched you open the safe, often. I knew the combination three months before I needed it, if that is of interest to you. I wiped the safe off with a chamois afterward, because I did not know then whether it would be necessary for me to admit my share in Doctor Hunter's death, or not. I see now that it is necessary, in order to get the full benefit from his death."

"But his notes—his last notes—that great discovery he seemed to have made——?"

"Francesca, the only thing I ever minded about this matter was that I knew it would hurt you. But I saw no way to avoid that. Do you suppose if I went so far as to kill a man because of his work, I could leave the work itself undestroyed? No. All those papers I burned—utterly burned—that night, on the floor before the cyclotron. A devil's sacrifice—on the altar of the devil."

The girl cried out as though he had struck her, and Erickson clenched his free hand as if about to leap at the throat uttering these heresies. Lempereur saw the physicist's movement, and said in a low tone:

"Never mind, Doctor Erickson. Leave him alone. Can't you see the man is mad."

The figure outlined in golden light against the cyclotron straightened, and fixed on the chemist a cold and unwavering regard.

"You suggest that *I'm* mad!" snapped Sidney Richmond, and his voice did not sound like that of a lunatic, so collected was it, and so sharp. "*You!* Why, it's *you* that are insane. You scientists and technicians who have been goading humanity forward so much faster than it was built to go! Men like you, Mr. Lempereur, and you, Doctor Erickson; men like John Gregory Hunter. You have put under the feet of Mankind speeds that no human mind is fast enough to direct. You have put in his hands power that no human nerves or muscles are strong enough to control. You have shrunk the size of the earth until men are so crowded on it that they must fight each other for more room. War follows war—fought with ever more deadly weapons which you scientists provide for us. You have already gone far enough. If I could wipe out every scientist on earth, I should think it well done."

The young man said these words without any movement of his body, but as he continued, he raised his hands a trifle from his sides, palms upward and presented to his hearers. No voice was lifted in interruption.

"When I first came here," he declared, his glance burning into one after another of the men before him, "I thought you were seeking truth. And Keats said that truth is beauty, and beauty, truth. But I found that while science imagines it is pursuing a narrow minor truth, it is really in pursuit of chaos. It is sowing the wind; leaving us to reap the whirlwind.

Each little research worker is burrowing like a blind ant into his own pile of black dirt, without vision of the general scheme of things, with no plan, with no feeling of responsibility for human welfare. Every once in so often, from one of these ant holes, a worker tosses out the answer to a secret of Nature, tosses it out with the waste material he is throwing behind him. He never looks to see what happens to the men who receive this careless gift. He just goes on rooting ahead, blindly, blindly, *blindly!* If he is lucky, he tosses out another answer soon. If he goes on being lucky, he will be very, very famous before he dies!

"I watched the work in this laboratory, and it gradually came over me that this prying into the mysteries of the atom is the most dangerous of all scientific research. Oh, I don't mean dangerous for the workers about the cyclotron; I mean dangerous for all the rest of us! I came to the conclusion that John Gregory Hunter was the most dangerous man in the field; because he was furthest of all into an understanding of the forces in the atom; because he had the best equipment in existence; and because he was therefore probably nearest of all to releasing this appalling energy on the head of a humanity all too unready to receive it. I came to believe he must be stopped, and stopped in such a way that all men might realize their peril. From what I saw of his papers before I burned them, I believe I caught him in the very nick of time. I think he had the secret of harnessing the energy of the atom between his two hands."

"You—you destroyer!" cried Erickson.

"A destroyer? If so, a destroying angel," answered Richmond rapidly, flinging back his wavy hair with a

jerk of his head, and resembling more than ever the pictures of the rebellious Lord Byron. "Don't you understand what that would mean? No, you scientists are all blind—all men are blind—except the poets. *They* see! They may be able to save the earth for humanity yet, but they will have to stop just writing, and begin to act, as I have done.

"I tell you, if Hunter had been allowed to finish his work, *in him Science would have gone the one desperate step too far.*

"You scientists have complicated our economic system until it is staggering upon the edge of the abyss; you have developed material progress until we cannot handle it now. You have put the ox-cart driver at the throttle of the locomotive—but he is still the ox-cart driver, and it is a runaway locomotive.

"It would be bad enough if you should stumble on a practical way to make unlimited quantities of gold by transforming some common substance, but what will happen if you succeed in tapping the energy of the atom? Every automobile, every airplane and ship and electric power plant—millions of miles of transmission lines—every means of communication and transportation, of attack and defense—all are made obsolete at one stroke. Picture the world at that moment; financial collapse everywhere, and then, inevitably, wars upon wars.

"Can't you see beyond your test tubes and microscopes? Can't you see?

"To release suddenly this limitless supply of power, this promise of speed undreamed of in the short era of oil, this explosive for weapons of a destructiveness impossible with guncotton, would be the end of

civilization—of peace—of everything valuable and fragile and beautiful.

"No! In God's name, how is man happier because he can travel two hundred miles an hour? How is he better because he can fire a shell thirty miles?"

Sidney Richmond flung his arms wide, and his concluding sentence rang in the great building like a trumpet blast:

"If you question my sense, then tell me what sense is left in the world!"

Across the hush that followed when the young poet stopped speaking, Lempereur's voice cut like a steel blade:

"I *do* question your sense. Your motive is not valid as an explanation for homicide; it comes under no sane classification."

"That is your error," replied Sidney Richmond. "You scientists have place for nothing but material things in your classifications. I follow my belief in Beauty, and the wider truths by which men have lived since history began."

"You claim to follow beauty," snapped Lempereur, himself surprised that he was accepting a part in this improbable discussion. "Do you fancy that the murder of a devoted and intelligent human being comes under that word?"

"Would you hesitate to shoot a tyrant who threatened misery to a whole people?" countered the young man. "Doctor Hunter would have unleashed the lightnings of disaster. I stopped him. I hope when it is learned what I have done, opinion may be aroused to control your science until mankind has grown up enough to cope with your irresponsible discoveries."

"That is beside the point," the chemist said. "We are dealing with the killing of one man, not with vague generalities. Do you realize how ugly a method you picked to kill my friend? He might not have died as he did. There was more than an even chance that he would develop cancer over a much longer period, and have died in far greater suffering."

The young man nodded gravely, and answered:

"I did not choose the X-ray arbitrarily. X-rays were among the deadly radiations given off by Doctor Hunter's own cyclotron—a fit symbol of the vaster destruction which may issue from that machine. I merely bought an X-ray generator and turned his own by-product back upon him. It is the perfect example of poetic justice."

"We have listened," said Lempereur, bitterly, "to your high-flown nonsense far too long already. I came here to settle a double question: who killed my friend, and what became of his notes. You have answered both parts of the question. That is all I need to know. I mean to hold you in this laboratory until the proper authorities can be summoned. I shall advise them to arrest you on a charge of murder. We have a full transcript of your statements here, and enough additional evidence to secure a conviction. Of this I am certain, and I may say I am glad of it. There is only one sentence in law which would deal with you as your act deserves."

Sidney Richmond raised his hands and pressed them against the upper coil of the cyclotron. It was a gesture of acquiescence and surrender, but it made him look as though he had been crucified upon the great black machine. To the westward of the build-

ing, the sun had struck the ridge, and the amber light was dimming to red.

"I will go with you perfectly readily," he said, in a calm voice. "Keats died at twenty-six, Shelley and Marlowe at twenty-nine, Brooke at twenty-eight. They left a great work behind them. I am not afraid. If in my death I can teach the people of the world that beauty of living, and not speed of living, is what matters, I shall leave a greater name than any of them."

As he spoke these words, the last sunlight died on the western ranges and a gray chill brimmed over into the laboratory.

Drake leaned over toward the great silver-haired figure of Doctor MacCarden.

"Say," the reporter demanded under his breath, "is he screwy, or are we? Some of that stuff about going two hundred miles an hour is perfectly true. But, Mac, there must be something phoney about it—or we, and everybody else on earth, are as crazy as hell."

"I wonder," said MacCarden.

THE END

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